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HIGH SCHOOL TO UNIVERSITY IN PUERTO RICO.

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THIS REPORT ON RECRUITMENT TO HIGHER EDUCATION IN PUERTO RICO EXAMINES, IN PART 1, THE DIMENSIONS OF THE EXPANSION OF HIGHER EDUCATION AND SOME OF ITS CONSEQUENCES FOR THE CHARACTER OF THE HIGH SCHOOLS AND FOR THE PATTERN OF RECRUITMENT TO THE UNIVERSITY. PART 2 DESCRIBES IN DETAIL THE PATTERN OF RECRUITMENT TO HIGHER EDUCATION AS IT EXISTED IN 1960. THE DATA CAME FROM A SAMPLE SURVEY OF HIGH SCHOOL SENIORS AND COMPARED THE PUERTO RICAN RECRUITMENT PATTERN WITH THAT OF THE UNITED STATES. ITS MAIN FINDING WAS THAT THE RECRUITMENT PATTERNS ARE REMARKABLY SIMILAR. (LP)

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HIGH SCHOOL TO UNIVERSITY IN PUERTO RICO

by

Leila Sussmann

Preface

This study of recruitment to higher education in Puerto Rico was sponsored by the Social Science Research Center of the University of Puerto Rico and received financial support as well from the U.S. Office of Education, Cooperative Research Program, Contract ____________. My particular thanks are due to Millard Hansen, former Director of the Center, under whose aegis the investigation was begun and carried through, for his firm and steady administrative support. Since I was in residence in Puerto Rico during only part of the period when the data was collected, the quality of the materials was heavily dependent on the skill of the resident staff. I had the fortune to secure the assistance of Luis Nieves-Falcón and Angelina S. de Roca, who organized and directed the field work with the highest competence. Outside the Center officials of the Department of Education and the University of Puerto Rico have been my chief sources of information and aid, but I have been helped as well by many other public agencies and private persons, with the characteristic generosity which makes working in Puerto Rico such a pleasant experience.

Leila Sussmann
Amherst, Massachusetts
1965

INTRODUCTION

Puerto Rico's remarkable economic development since 1940 has been accompanied by a spurt of educational growth. The prosperity of the Commonwealth has increased the resources available for education and investment in education has a high priority in the Puerto Rican community. The relation between economic and educational development has not been all one-way, however. It is doubtful that the industrialization policies of the Muñoz administration could have succeeded as well as they did without the foundation of a literate work force resulting from forty years of compulsory primary education. The United States' policy of universal public schooling was ineffective in its early years because of a blundering insistance on English as the sole language of instruction. But Puerto Rican counsel on this score was gradually heeded. On the other side, it was a piece of good fortune that the U.S. advisers who influenced the spirit and content of the Puerto Rican curriculum were committed to the progressive ideology of education. From the first grade, in addition to the basic three R's, the Puerto Rican public schools had their pupils attend to such matters as good nutrition, personal hygiene, public safety and sanitation needs and the making of democratic collective decisions. The U.S. pedagogues also introduced the idea of individualized work and instruction; for example, individual recitation in daily lessons rather than the collective chanting of rote responses. Thus American values: pragmatism and progress, collective improvement and individual achievement were imported directly into the Puerto Rican classroom and implanted there with at least partial success. I believe that this educational style has had something to do with the demonstrated competence of the Puerto Rican people to industrialize their economy and to maintain stable democratic political institutions in the process.

The Puerto Rican educational style has been American also in its emphasis on numbers --- as many years of education as possible to be extended to as many children as possible. This means that educational resources are spread wide - and sometimes thin. A very different emphasis on qualitatively intensive education for a select few can be found on neighboring Caribbean Islands which carry on the educational traditions of other former colonial masters.

Since 1940 the Puerto Rican-American ethos of mass education has expressed itself particularly in the extension of secondary schooling, but also in the growth of higher educations. This study focusses on recruitment to higher education during this period of expansion. It begins by examining the dimensions of the expansion and some of its consequences, for the character of the high schools and for the pattern of recruitment to the university.

Part II describes in detail the pattern of recruitment to higher education as it existed in 1960. The data come from a sample survey of high school seniors very similar in design to comparable surveys in the U.S. The analysis compares the Puerto Rican recruitment pattern with that of the U.S. and its main finding is that they are remarkably similar. Though the proportion of the age group attending high school and university is much smaller in Puerto Rico, and despite undoubted differences in culture between the commonwealth and the continental Unites State the overall similarities of social structure and school system make for a flow of students from high school to university much the same in its outlines.

Part I: Some Historical Trends

A. Growth of the Puerto Rican School System

During Puerto Rico's tenure as a colony and then as a Commonwealth of the United States, the Island has devoted between a quarter and a third of its budget to education. Despite this high ratio of investment[1], the growth of the school system has encountered difficulties. The most obvious problems are due to the population explosion. After the initial period of establishing the public schools - when enrollments grew very much faster than the population of school age, - there was a slowing of the growth rate from 1920 to 1944; some time after World War II the rapid expansion of school enrollment resumed. (Table 1).

However, Puerto Rican school enrollment figures must be examined with a number of reservations in mind. The pressure of population against the resources allocated to education has often forced Puerto Rico into a choice between "equity" and "efficiency".[2]

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[1] Some developing countries in Asia - e.g. Korea and Taiwan - are reported to be spending about as much. But definitions of "education" and different divisions between national and local budgets make comparison very difficult. See Paul Fisher "The Role of Education in Common Development" in Hobert Burns, ed. Education and the Development of Nations. Syracuse University, 1963, p. 36.

[2] This is C. Arnold Anderson's brief formulation of a common dilemma of public policy, cf. his "Equity, Efficiency, and Educational Opportunity in Relation to Economic Development", Chicago, 1963 mimeographed.

TABLE I-1

GROWTH OF SCHOOL ENROLLMENT IN PUERTO RICO IN RELATION TO GROWTH OF SCHOOL-AGE POPULATION

Year[a]	% of 5-17 age group enrolled	Percentage Increase of Numbers in Age-Group during preceding period:	Percentage Increase of Numbers Enrolled during preceding period:
1900	10.55	-----	-----
1910	31.09	12.28	230.73
1920	41.02	21.21	56.49
1930	42.80	20.83	25.66
1940	49.88	12.65	29.35
1944	50.12	7.52	8.21
	% of 6-18 age group enrolled		
1950[b]	60.4	no data	no data
1960	78.6	12.8	43.4

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a. Source of data through 1944, Annual Report of the Commissioner of Education, 1943-44, HATO REY, Puerto Rico, pp. 82-84.

b. Source of data for 1950 & 1960: Poder de Retención de las Escuelas de Puerto Rico, Dept. of Education, HATO REY, Puerto Rico, 1961, p. 5, mimeographed.

While "equity" requires equivalent opportunities for all, "efficiency" would frequently dictate a concentration of educational investment in order to produce a qualified cadre whose skills are needed for further economic and educational development.[1] When choice has been possible, the Puerto Ricans have often chosen equity over efficiency. If teachers, books and buildings were in short supply, they have sent large numbers of children to school half-time rather than small numbers full-time.[2] One can read in the annual reports of the Commissioner of Education in the

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[1] This choice is an urgent problem facing all the developing countries. Concretely it takes the form of whetehr priority should be given to literacy programs and primary education or to certain types of secondary education. In a statement released to the press on May 3, 1965, René Mahen, Director-General of UNESCO, said, "... we are faced with the gravest difficulties... for on the one hand, there are ethical priorities and on the other, economic priorities... there are unmistakable signs of an extremely strong movement in favor of giving priority to primary education. This movement, which may be likened to a tidal wave, has been considerably strengthened by the attainment of independence by a large number of countries, which has made it possible for the peoples concerned to express - with what energy you know - their aspirirations after education as one of the basic human rights.

From the point of view of requirements of economic development, however, it is rather on secondary education that the stress should be placed, for it is mainly at this level that training is provided for the middle-ranking staff needed to speed up development and provide a real foundation for political independence which, without economic and technical roots, can have no real substance... the fact is that the governments of the developing countries, especially the newly independent countries, are unable to make the necessary choice between the claims of the people at large for free and universal primary education and the recommendations of the specialists... or selective development of secondary, and more particularly, technical, education, which will meet the imperious demands of development and indeed of political stability. Hence the tensions and sometimes even the outburst ofviolence and the dramas which... derive from the fact that educational development is hindered by the bottlenecks that occur at all levels...."

[2] For an expression of the philosophy behind this policy, hear Pablo Roca of the Department of Education, "At the present time there are 7 towns with first grades organized in single enrollment, 10 with second grades organized (in single enrollment). ("Single enrollment" or "Matricula Sencilla" means that pupils are in school for a full six hour day.) The total number of children in these grades on single enrollment reached 8209 last year. There were also 12,106 in these three grades on interlocking enrollment (5 hour day, rather than 6 hours), which makes a total of 20,315. That is to say that by organizing all the first, second, and third grades on double enrollment (a three hour day) it would be possible to make room for 20,315 new pupils next year. In this way, the opportunities of those now in the first three grades would be equalized and at the same time opportunity would be increased for 20,000 of those who are not in school. Why should 664 first grade students have a double opportunity, that is to say a complete day of classes when all the rest who are 74,499 have to make do with a half day? Why should one-fourth of those in third grade receive a full day while three quarters receive only a half day?" quoted in I. Rodriguez Bou, La Doble Matrícula En Las Escuelas de Puerto Rico, Dec. 27, 1950, mimeographed. (The translation of Sr. Roca's remarks is mine.)

1950's well as the 1920ś that the most urgent problem of the schools is to reduce the proportion of children on "double matriculation" (half time) and "interlocking enrollment" (five-sixths time). The percent of children enrolled in school on these schedules was about the same in the two periods.

Thus, while 75% of all children aged 5-14 were attending school in Puerto Rico in 1958, a figure which placed the Island very nearly in the ranks of the well-developed industrial nations of Europe, (table 2) if one corrects the statistics for part-time students the Puerto Rican enrollment is deflated by a particularly large fraction-19% the picture considerably. Education in the 5-14 age group in Puerto Rico is spread wide but thin.

On the other hand the correction for part-time attendance affects the enrollment figure for 15-19 year olds in Puerto Rico hardly at all. As Table 2 shows, this figure is quite high compared with those for Europe. However, here another "correction" should be made in the Puerto Rican statistics, for which, unfortunately, the parallel data concerning the other countries is lacking. In the Commonwealth about half the 15-19 year olds are not in secondary but in primary school. This is due to another choice of equity over efficiency. Children past the normal school entering age are permitted to enter school and in some periods have been given preference over younger eligibles.[1] This has been done although it is well-known that overage entrants frequently do not stay in school long enough achieve functional literacy, whereas younger children tend to stay longer and

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[1] df. Poder de rentención de las Escuelas de Puerto Rico, cited above.

TABLE I-2

SCHOOL ENROLLMENT RATIOS BY GROUPS OF COUNTRIES[a]

Age Group:	Northern Europe[b]	France	Austria, Germany, F. R., Switzerland	Mediterranean[c] Countries	Canada U.S.	Puerto Rico
5-14	94.0	89.7	80.6	66.0	89.7	56.0
15-19	20.6	31.3	17.4	12.3	64.3	42.5

a. Data for all countries except Puerto Rico are from "Targets for Education in Europe in 1970", Policy Conference on Economic Growth and Investment in Education, OECD, Washington, D.C., 1962. They are for 1958 or the nearest year for which data were obtainable, p. 71. The correction for part-time attendance was made by counting a pupil who attended half-time as one-half of a pupil, five-sixths time as five-sixths of a pupil, etc.

b. Denmark, Iceland, Ireland, Norway, Sweden, U. K.

c. Greece, Italy, Protugal, Spain, Turkey, Yogoslavia.

therefore to "repay the investment" better. Nonetheless, the Puerto Rican policy-makers have felt that no child should be deprived altogether of his chance to go to school. However, even when it is realized that only about 20-30 per cent of the 15-19 year olds are enrolled in secondary school, and taking account of the fact that the figure for the other countries would be at least slightly reduced by an equivalent correction, it is clear that Puerto Rican secondary school enrollments are remarkably high for a community with such a relatively short history of public education and limited economic resources.

Puerto Rican secondary school enrollments have grown steadily since the 1940's (Table I-3). There has been a greatly increased holding power of the elementary schools providing a larger pool of graduates for the high schools to draw upon.[1] This expanded pool of high school entrants differs importantly from the smaller proportion of the age group which monopolized secondary education before the war: most of them are not on their way to the University. For new recruits, high school graduation is intended as the termination of their school careers.

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[1] "Proyecciones de Matricula Para los Niveles Elemental, Secundario y Universitario de las Instituciones Educativas Públicas y Privadas Acreditadas de Puerto Rico, Años Escolares 1964-65 a 1970-80." Consejo Superior de Enseñanza, División de Investigaciones Pedagógicas, Universidad de Puerto Rico, April 30, 1964, p. 66.

TABLE I-3

SENIOR HIGH SCHOOL ENROLLMENTS AS A PROPORTION OF THE POPULATION OF 16-18 YEAR OLDS [a]

1940-41	10.6
1941-42	10.4
1942-43	10.9
1943-44	12.4
1944-45	15.5
1945-46	18.0
1946-47	21.3
1947-48	24.7
1948-49	25.1
1949-50	25.4
1950-51	26.5
1951-52	27.1
1952-53	28.9
1953-54	31.4
1954-55	34.9
1955-56	38.6
1956-57	40.0
1957-58	41.5
1958-59	44.2
1959-60	45.5

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[a] The data come from the Annual Reports of the Secretary of Education. The reader should note that these data are subject to the difficulty discussed above in the text. The senior high school enrollments include many students not in the age range 16-18; more of them are over 18 than under 16. These figures are therefore somewhat misleading. They represent a higher estimate than would be obtained if only the 16-18 year olds in senior high school were counted; or if the true senior high school enrollments were related to the population of the wider age range they actually include. However, while the figures themselves are inflated, the growth trend shown is probably roughly accurate.

An indicator of this trend is shown in Table 4. The Puerto Rican high schools have no college-preparatory curriculum. The "general" curriculum includes both University-bound students and students who plan their high school careers as terminal. However, there are also vocational and commericail curricula which are very predominantly (over 90%) terminal.[1] Table 4 shows that it was the latter curricula which expanded at the fastest rate in the 1950's.[2]

The exapnsion in numbers and proportion of terminal high school students which occurred in Puerto Rico after the war recapitulated what happened in the continental United States in the first part of the century. At that time the American high schools underwent their "first transformation" from elite, college-preparatory institutions to mass, terminal institutions.[3] Natalie Ramsey, discussing this mass transformation in terms of school mortality rates, shows what happened as the number and social composition of American high school students changed:

> "..... as more and more youth stay in school through the twelve primary and secondary grades, the "mortality" at the end of high school has become far more abrupt than it was in the past..... a generation ago the number of young people staying in school in each grade from the fifth through the twelfth and then continuing on to enroll in college decreased almost in a linear fashion from one grade to the next, with only a slightly greater than average loss in the transition from high school

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[1] They are not necessarily terminal, since a graduate of any high school curriculum may take the University entrance examination and may if his score is high enough, gain admission to the University. In fact, however, relatively small proportions of these students continue their education after high school graduation. cf. pp....below.

[2] Although they continued to enroll a minority of the students.

[3] cf. Martin Trow, The Second Transformation of American Secondary Education, mimeo. The "second transformation", according to his author, is now turning the American High Schools into mass, college-preparatory institutions.

TABLE - I-4

PERCENTAGE INCREASE IN NUMBER OF HIGH SCHOOL GRADUATES FROM VARIOUS CURRICULA

Year	Commercial and vocational graduates	General curriculum graduates
1943-44 to 1951-52	78%	121%
1951-52 to 1959-60	196%	85%

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a. Figures on high school graduates from various curricula from the annual reports of the Commissioner of Education.

> graduation to college entrance. At that time, only one fourth of the entire school mortality from the fifth grade on occurred at the end of secondary school. But, by 1956, the loss at the end of secondary school amounted to almost half of all the cumulative dropouts since the fifth grade. As late as 1950, the proportion of high school graduates who entered college was about the same as it had been by 1932 - 41 percent and 39 percent respectively. In other words, the very considerable gain in high school attendance during that interval consisted almost entirely of an increase in non-college bound youngsters who completed high school. Only in the few years since 1960 has the channel into higher education broadened, although still not proportionately to the channels, leading into, through, and out of secondary school."[1]

In Puerto Rico, following a similar expansion of secondary education, the proportion of high school graduates going on to college not only has failed to increase, but may actually have fallen for a period.

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[1] Natalie Rogoff Ramsey, Social Structure and College Recruitment, pp. 4-5, Bureau of Applied Social Research, Columbia University, 1962, mimeographed.

Recent international comparisons make it plain that a trend toward mass secondary education must be understood in terms of the place of the secondary schools in the school system as a whole. Frank Bowles' study Access to Higher Education: the international study of university admissions, vol. 1, UNESCO and the International Association of Universities, 1963, divides school systems into two types. Type 1 includes those in which elementary schooling is near-universal and secondary enrollments are approaching this level. In these systems there is a high rate of "dropout" during the secondary school years, but the biggest elimination from the total pool of students occurs at the end of secondary schooling. The transition point with the highest "mortality" rate is that between secondary school graduation and entry into higher education.

In Type 2 systems, elementary education also approaches universality, but the transition point with the biggest "mortality" comes between the end of compulsory schooling and the entry into secondary school. In these systems the secondary schools are much more exclusively academic, that is, college-preparatory, than in Type 1, the dropout during secondary school is relatively low, and the proportion of secondary school graduates who go on for higher education is relatively large. According to Bowles, the dropout from selective secondary schools was comparatively low in the 1950's (see p. 76-77). However, recent data show a much higher rate of dropout before graduation from the initially selective British grammar schools and German gymnasia than from the relatively unselective U.S. high schools. (Data

The situation is documented as well as available data make possible in Tables 5 and 6. Table 5, which deals with the first half of the century, must be treated as a set of very rough estimates. It does not give the number of high school graduates but rather the number of students enrolled in the 12th grade as published in the annual reports of the Commissioner of Education.[1] The estimates of numbers of college freshmen are based on the Registrar's reports of enrollment in the colleges of the Rio Piedras campus of the University of Puerto Rico. The Engineering College at Mayaguez, also part of the UPR, is omitted for lack of data, as the few other small institutions of higher learning which existed on the Island during the latter part of the period. Since the Registrar's office of the UPR was able to supply figures only for the total enrollment at Rio Piedras the estimates were made by assuming that freshmen were 27% of the total enrollment.[2]

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from Rose Knight "Trends in University Entry: An Inter-Country Comparison (OECD restricted document DAS/EID/45.30).

[1] It proved not possible to obtain a figure for high school graduates for any year prior to 1939-40.

[2] Page 65 of "Proyecciones....."cited in footnote a to Table 3 shows that between 1950 and 1962, freshmen as a proportion of total college enrollment in Puerto Rico fluctuated between 23.85% in 1952-53 and 30.98% in 1957-58, but for the most part the proportion was between 28% and 30%. I have assumed that in the earlier period of Table 5, the "holding power" of the University was somewhat higher than it is today and have therefore chosen 27% as a reasonable estimate for the proportion who were freshman.

TABLE - I-5

ESTIMATED HIGH SCHOOL-TO-UNIVERSITY SURVIVAL RATES IN THE FIRST HALF OF THE TWENTIETH CENTURY

Year	Number of Students in Twelfth Grade	Estimated number of freshmen at Rio Piedras, UPR the following year	Estimated Number of Freshmen at R. P., UPR as % of 12th graders
1914-15	111	186	168.0
1919-20	355	194	55.5
1924-25	719	329	40.5
1929-30	1092	701	64.5
1934-35	1221	1212	99.0
1939-40	2352	1585	67.0
1944-45	3545	2108	59.5
1949-50	8389	3063	36.5

TABLE - I-6

PROPORTION OF HIGH SCHOOL GRADUATES WHO ENTERED THE FIRST YEAR OF HIGHER EDUCATION, 1950 TO 1960[a]

Year	Per cent of High School Graduates of the Previous year who enrolled as freshmen at institutions of higher learning
1950-51	38.0
1951-52	37.4
1952-53	36.4
1953-54	45.7
1954-55	54.9
1955-56	51.7
1956-57	51.5
1957-58	53.5
1958-59	50.4
1959-60	44.3
1960-61	54.2

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[a] Source: Consejo Superior de Enseñanza, "Proyecciones.....", cited above.

High school graduates were somewhat fewer than students in the twelfth grade; and the total number of freshmen was somewhat larger than the proportion of high school graduates who became University freshmen. Table 6 gives the official figures for 1950-60. Although the proportion was going up once more after a postwar drop, it was not yet higher than it had been between the world wars. Once again we can see that the increase in secondary enrollments in the 50's was made up in large part of students not bound for the University.

It is also true, however, that higher education did not expand nearly fast enough in Puerto Rico after World War II to accommodate all of the qualified students who would have liked to attend. This failure has been a worldwide phenomenon.[1] It is difficult to document it precisely for Puerto Rico since there are no data on the total number of applicants for higher education.[2]

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[1] Cf. Bowles. op. cit., p. 14.

[2] The Planning Office of the UPR reports the proportions of applicants who were admitted as follow:

1958-59	43.5%
1959-60	44.1%
1960-61	43.1%
1961-62	41.1%
1962-63	51.5%
1963-64	55.3%

However, this does not indicate any expansion of UPR facilities since the number of applicants to this university over this particular period actually fell from 10,380 in 1958-59 to 7,760 in 1962-63 while the number of high school graduates rose from 14,639 to 18,191. The explanation for the decline in the number applying to the UPR is not certain. Other institutions of higher education in Puerto Rico are receiving an increasing share of the high school graduates, cf. Table 7 below.

Even if there were, it would be difficult to state what proportion of applicants should be regarded as "qualified". In educational systems with selective secondary schools, the leaving examination of the gymnasium or its equivalent is the certificate of qualification for entry to higher education. Where secondary schools are relatively unselective, the situation is more ambiguous. Some state universities in the U.S. treat all high school graduates as qualified, but these universities usually have a very high flunk-out rate at the end of the first year, which is in fact a "trial" period. Other public and private institutions set their own qualifying standards, which vary considerably.

In Puerto Rico entry to the UPR is open to competition by all high school graduates. The admissions index is an unweighted average of the high school graduation index and the score, on an island-wide uniform entrance examination. The cut-off point is determined by the number of places available and this is the de facto definition of "qualified".

Unlike many state universities on the continent, the University of Puerto Rico does not treat the freshman year as a period of "trial admission". An apocryphal saying has it that it is impossible to flunk out of the UPR. Nonetheless an average-to-large proportion, by U.S. standards, drop out.

The proportion of students entering the UPR who completed their degrees without ever dropping out was 34 per cent in 1944 and 33 per cent in 1952. The per cent who dropped out of the University, but later returned and were graduated was 17.5 in 1944 and 12.9 in 1952. The proportion of entrants who did not complete a degree rose from 48 per cent in 1944 to 54 per cent in 1952. This compares with roughly 40 per cent who don't complete the degree in the U.S.[1]

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[1] Cf. "Dropouts from College" by John Summerskill in Nevitt Sanford, ed.

Among those who had completed a degree by 1960, the number of years required for completion changed very little between 1944 and 1952. As shown in Table on p. 17, 59 per cent of this group in 1944 and 64.7 per cent in 1952 finished the degree within four years; the rest look longer. In a biting essay on the University of Puerto Rico, Frank Bowles has explained these long-drawn-out degrees:

> "... the students have developed a do-it-yourself advisement program in which they register for overload programs to twenty-four credit hours per semester. Then, taking advantage of one of the regulations (or lack of regulations), which permits the dropping of a course up to the night before final examination, they drop courses as it becomes apparent that they will fail them if they continue in them. This method of registration and self-advisement goes on until the student has finally completed his graduation requirements."[2]

The American College, John Wiley, New York, 1962, pp. 630-631. For an estimate that the rate of attribution may be closer to 25 or 30 per cent if those who eventually complete the degree are fully counted see Bruce Eckland, "A Source of Error in College Attrition Studies", Sociology of Education, Fall, 1964, vol. 38, No. 1, pp. 60-72.

[2] Frank Bowles, "The High Cost of Low Cost Education" in Seymour Harris, ed., Higher Education in the U.S.: the Economic Problem, Harvard University Press, Cambridge, Mass. p. 200.

My data on dropouts, length of time to complete the degree and course withdrawals come from my own tabulations of material taken from student records. Cf. p. 12. As Bowles points out, the Registrar's Office at the University of Puerto Rico does not have accurate statistical information on these problems.

NUMBER OF YEARS BETWEEN THE ENTERING UPR AND OBTAINING A DEGREE

	ENTRANTS of 1944	ENTRANTS of 1952
	who had obtained a degree by 1960	
Three years	1.8%	2.0%
Three and a half years	2.0	4.0
Four years	55.0	58.0
Four and a half years	7.5	6.0
Five years	11.6	9.0
Five and a half years	--	2.6
Six years	5.0	5.7
Seven years	1.8	6.8
More than seven years	15.3	5.5
	100.0	100.0
	(N=336)	(N=537)

Table on page 19 shows that "self-advisement" increased sharply between 1944 and 1952 at the UPR. Between these same years the proportion of dropouts who had "academic failure" on their records as a reason for withdrawal from the University declined from 62 per cent to 29 per cent. Our own study of first and second year dropouts from among the entrants of 1960 showed that while few were outright academic failures, it was the students with the lowest grades, by and large, who dropped out. This suggests that "self-advisement" has developed as an adaption to the tremendous popular demand for higher education from students who are often ill-prepared to undertake it. Wholesale dismissals for academic failure by the University would be politically unpopular. Instead there is a do-it-yourself "cooling out" process[1] which, slowly, and at great economic and educational cost, eliminates the least qualified students.

While the proportion of high school graduates going on to University work has not yet risen in Puerto Rico, the proportion of the college-age population in attendance has gone up, due to expansion of attendance and improved holding power in the lower schools. Table 7 shows the increase since World War II.[2] The estimate of the proportion in

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[1] This is the phrase given currence by Burton Clark's well-known book on the functions of junior colleges, The Open Door College. "In some ways the University of Puerto Rico's laissez-faire policy resembles that of the European continental universities which give students little guidance concerning what courses to take and allow them to attend as they please and take examinations when they feel ready. These universities, like the UPR, keep no record of dropouts. Some recent attempts to study the question, for instance in Germany, suggest that the dropout rate is exceedingly high. If this is true, it is all the more disturbing since the entrants to these universities, unlike those to UPR, are the products of selective secondary schools.

[2] Cf. Abram Jaffe, People Jobs and Economic Development.

NUMBER OF COURSE WITHDRAWALS AMONG STUDENTS WHO HAD BEEN GRADUATED BY 1960

No. of course withdrawals	1944-45 entrants percent of students who were graduated			1952-53 entrants percent of students who were graduated		
0	59%			12%		
1	22			21		
2	9			21		
3	5			16		
4	4	10	19	11	46	67
4+	1			19		
	100%			100%		
N =	(333)			(531)		

attendance given in the table is low compared to some earlier estimates. Jaffe reported for 1954[1] that 12.0 per cent of the college-age population in Puerto Rico (20-34 year-olds) was in school. The difference is due to the different age-group used as the base of calculation and to the fact that many of those reported by Jaffe were in school but not in college.

In the early nineteen sixties the pressure for admission to higher education in Puerto Rico, as elsewhere, was growing constantly stronger. It has already led to plans for community colleges to be founded at several localities in the Island where they would make the first two years of higher education accessible to many high school graduates without requiring them to leave their parental homes. Thus the channel into higher education from the 12th grade can be expected to widen in the future.

B. Effects of Expansion in Puerto Rican Secondary Education

The rapid growth of recruitment to schools in Puerto Rico has had many consequences for the structure, quality, and contents of both secondary and higher education. To detail a few of these I rely here and in Section C on data collected for the purpose. They are culled mainly from the official record of each entrant to the University of Puerto Rico at Rio Piedras in 1944, 1952, and 1960 and supplemented by data from a sample survey of high school seniors conducted in 1960.

The entering freshmen at the Rio Piedras campus are not a random sample of Puerto Rican college freshmen. There are a few other universities in Puerto Rico, and the UPR has another major campus for undergraduate work at Mayaguez on the west coast of the Island. Rio Piedras represents roughly 80 per cent of the undergraduate enrollment of the UPR and more

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[1] Abram Jaffe, People. Jobs and Economic Development, Free Press, 1959, p. 146.

TABLE - I-7

NUMBER OF FRESHMEN IN FIRST YEAR OF FOUR-YEAR COLLEGE PROGRAMS IN PUERTO RICO AS PROPORTION OF THEIR AGE GROUP, BY YEAR

YEAR	NUMBER IN AGE GROUP	NUMBER AND PER CENT ENROLLED FOR FIRST YEAR OF B.A. AT UPR RIO PIEDRAS AND MAYAGUEZ[b]		NUMBER AND PER CENT ENROLLED AT OTHER UNIVERSITIES FOR FIRST YEAR OF B.A.[c]		PERCENT ENROLLED IN FIRST YEAR OF BACHELOR'S PROGRAM AT ALL COLLEGES AND UNIVERSITIES
		NUMBER	PERCENT	NUMBER	PERCENT	
1944-45 (18yr. olds)	41,384[a]	723	2.23	193	.47	2.70
1952-53 (18yr. olds)	38,675	1,707	4.40	465[d]	1.20	5.60
1960-61 (18yr. olds)	45,772	2,490	5.45	1,421[e]	3.15	8.60

a. Figure derived by arithmetic interpolation between the census of 1940 and the census of 1950. The figure is also derived by arithmetic interpolation and the 1952 figure comes from the 17th census, 1960. The interpolations were made by comparing 14 year-olds in 1940 with 24 year-olds in 1950 to obtain an estimate for this cohort in 1944 when it was aged 18. Similarly the size of the cohort which was 18 years old in 1952-53 was obtained by comparing the figure for 16 year-olds in 1950 and 26 year-olds in 1960. The figures are only estimates, and they assume that losses due to death and net emigration can be distributed evenly over the years intervening between the two censuses

b. Source of data: Registrar's Office, University of Puerto Rico at Rio Piedras.

c. Source of data: Personal correspondence with Registrar's Offices at the colleges and universities in Puerto Rico.

d. Includes 110 students from Puerto Rico Junior College.

e. Includes 411 students in the Bachelor of Arts program in the Puerto Rico Junior College.

than half the freshmen on the Island. However, the recruitment patterns of other campuses, particularly the College of Engineering at Mayaguez, the Inter-American University at San Germán, and the Catholic University at Ponce, are probably somewhat different from that of Rio Piedras. The following discussion must be read with this in mind.

1. Academic Credits and Academic Achievement among University Entrants

A sign of the pressure on the University of Puerto Rico in the postwar period is the contradiction which appeared between the formal requirements for admission and the academic qualifications actually offered by entrants. The commercial and vocational curricula of the high schools were increasing their enrollment at a faster rate in the fifties than the general curricula. In tune with this development and with the egalitarian views of the educational policy-makers, all specific subject requirements for entry to the University of Puerto Rico were dropped in 1954. Entrance depended thenceforward solely on the admissions index. The intent was to keep the channel into higher education open for graduates of the non-academic high school curricula. However, the proportions of such graduates who entered the University remained low.[1] Furthermore, the number of high school academic credits offered by entrants to the University increased steadily between 1944 and 1960. The competition of increasing numbers of aspirants for limited numbers of places was a more powerful influence on the amount of academic preparation accumulated by University applicants than the formal relaxation of requirements.

Freshmen entering the University of Puerto Rico between 1944 and 1960 had behind them more and more credit hours in every academic subject except English.[1] Both public and private school graduates coming to the University had increased their academic training during this period, though not at the same rate. In 1944 these two groups were alike in number of academic credits; by 1952 the public school entrants had fallen far behind; and in 1960 they were still behind, though not by so much as they had been eight years earlier.

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[1] Cf. evidence from the sample survey, pp. below.

There was considerable variation in these trends by subject, however. (See Appendix Tables A1-A5).

Among public school entrants, those coming from metropolitan, urban, and rural high schools[2] all increased their academic credits between 1944 and 1960. The same was true of freshmen from both small and large high schools. However, in 1952 and 1960, and in nearly every academic subject, the rural and urban entrants offered more credits than the graduates of the metropolitan high schools (Appendix Tables A7-A11). The latter are the schools where the commercial and vocational curricula are heavily concentrated and the few commercial and vocational graduates who entered UPR came from them. Since the data in this case do not distinguish between graduates of different curricula, it is hard to tell whether this fact accounts for the finding. However if, as Van Til claimed in 1960, the largest schools in the largest cities offered a richer choice of academic electives than any others, our data give no evidence that metropolitan students headed for college took advantage of the fact.

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[1] It would be interesting to investigate why the study of English at the secondary school level has declined, with a corresponding loss in the command of the language possessed by students entering the University. The oft-made statement that the UPR students are bilingual is becoming less and less true. To a considerable extent, they avoid courses and readings in English because these present them with great difficulties.

[2] This means high schools located in rural, urban, or metropolitan areas as these are defined by the census.

It is possible that students in the rural and town schools devoted extra time to academic study at the secondary level to compensate for the deficiencies in their primary school training which put them at a relative disadvantage on the University entrance examination. Table _ p. 25 shows that the largest public high schools, which are concentrated in the metropolitan areas, produced graduates who did better on the University entrance examination than those from smaller schools in all three years studied, although the large school advantage was cut in half by 1960.

The greater time devoted to academic preparation in high school by all UPR entrants between 1944 and 1960 raises a question concerning their scholastic achievement. Did more academic work result in higher attainment? One would imagine so, yet the University faculty had the impression that the preparation of entrants was declining after World War II. Bowles quoted such complaints:

> ...the University feels a serious decline in the preparation of its entering students. This decline has already been noticeable, in the view of many of the faculty.[1]

Was the academic attainment of entrants in fact declining as the faculty believed or was it improving, as the increase in high school academic credits would suggest? The question is very difficult to answer since there isn't a satisfactory criterion measure. University entrance examinations change from year to year and there is no assurance that they are of comparable difficulty. Indeed, their character has been deliberately altered to accommodate to the changing body of applicants. The increased heterogeneity of high school training among applicants has been met by a wider range of types of problems on the examination. University grades are an unusable criterion because of the "normal curve" pattern in grading: whatever the distribution of ability and preparation in the student body, the faculty tends to distribute its grades in a normal curve. The tendency is not all-prevailing, of course; very sudden shifts in the level of student performance would probably be reflected in grades. But the pattern is strong enough so that distributions of grades cannot be relied on to reflect differences between successive classes of students.

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[1] Op. cit. p. 201

PROPORTION OF UPR ENTRANTS SCORING IN TOP TWO ENTRANCE EXAMINATION QUINTILES, ACCORDING TO HIGH SCHOOL SIZE AND YEAR

%

	Public High School of 1000 and more	All smaller public high schools
1944	49.4 (N= 158)	32.3 (N= 380)
1952	39.8 (N= 430)	26.0 (N= 466)
1960	30.1 (N= 522)	21.0 (N= 625)

QUINTILE DISTRIBUTION OF ENTRANCE EXAMINATION SCORES AMONG GENERAL CURRICULUM STUDENTS OF URBAN AND METROPOLITAN PUBLIC HIGH SCHOOLS ACCORDING TO SIZE, 1960

URBAN

Entrance Examination Quintile:

%

High School Size:	Top				Bottom	
300-499	12.2	20.5	28.7	26.6	12.2	100.00
500-999	16.7	22.7	21.2	24.2	15.2	100.00
1000 and more	29.4	27.1	18.8	16.5	8.2	100.00

METROPOLITAN

High School Size:	Top				Bottom	
100-299	7.7	7.7	23.1	7.7	53.8	100.00
500-999	7.2	18.9	26.1	21.7	26.1	100.00
1000 and more	22.4	25.5	13.3	18.4	20.4	100.00

In 1958 Ismael Rodríguez-Bou, Secretary of the Superior Education Council of Puerto Rico, made an attempt to get around these difficulties and to study the question of the changing academic attainment of entering freshmen at the UPR. To compare 1948 and 1959 freshman, Rodríguez-Bou devised a procedure for "translating" the one set of entrance examination scores into the other. He gave both the 1948 and 1959 examinations to a group of 1,033 high school seniors.[1] There was a period of two weeks between the administration of the two tests. His report remarks that the 1959 entrance examination may have engaged the students more seriously since it was administered first and it was their "real" entrance examination for admission to the UPR.[2] The overall product-moment correlation of grades, among the high school seniors on the two examinations was .88. The "r" was .67 for the English test; .69 for the mathematics test; .84 for the Spanish test; and .82 for the general information test.[3] With the regression equation derived from the two sets of scores achieved by the high school seniors, the entrance examination scores of the 1948 freshman class were used to "predict" their 1959 examination scores. These "predict" scores of 1948 freshman were then compared with the actual scores of the freshmen who entered the UPR in 1959. The comparisons were made in terms of the scores "achieved" at each percentile rank. Rodríguez-Bou points out that the procedure is a crude one, subject to many reservations. It asks us to assume for instance, that the regression equation found for the high school group would also have held for the 1948 freshmen.

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[1] Ismael Rodríguez-Bou, "Evaluation: Results of the Examinations administered in several areas to several grade levels in the School System", p. 8, Rodríguez-Bou refers to the group as a sample but the sample selection procedure was not described in this report.

[2] Ibid., p. 56

[3] Ibid., p. 58

On the basis of this less-than-satisfactory procedure, the finding was that the two entering classes were very similar in performance. The 1948 students did slightly better than the 1959 overall. On the English portion of the test, the 1948 students did considerably better; in mathematics they did slightly less well. Thus, to the extent that one is willing to grant validity to this evidence one must conclude that the longer years of academic preparation undergone by University entrants since World War II have not raised their scholastic achievement level.

How can such a result, or lack of result, be explained? Must probably the answer lies in the fact that expanded secondary education has meant expanded recruitment of students of low social origins. Table 15 shows that this was the case among public high school graduates who entered the University. Between 1944 and 1960 the proportion of these graduates who came from upper-middle class families declined, while those from lower-middle-class and working-class families increased. If this was so among the University entrants, the trend among high school students as a whole must have been considerably more marked. Research in education has by now made it thoroughly clear that as one goes down the social ladder, the burden of education is borne less by the home and falls more heavily on the schools. Students from home backgrounds which, relatively speaking, are "culturally deprived" need more intensive school training to reach a given achievement level than students from culturally rich family backgrounds — even if their ability is the same. Since the public high schools of Puerto Rico were receiving more and more low-status students

TABLE- I-15

SOCIO-ECONOMIC STATUS OF FATHERS OF PUBLIC HIGH SCHOOL GRADUATES ADMITTED TO THE U.P.R.

Occupation of Student's father:	1944 %	1952 %	1960 %
Professionals, semi-professionals and higher-white-collar	30	20	18
Lower-white-collar	6	11	15
Retail proprietors	22	20	16
Manual workers	23	23	32
Farm owners and managers	12	11	8
Farm laborers and farm foremen	1	1	2
Other	6	14	9
Total	100% (N=542)	100% (N=907)	100% (N=1148)

in these years, and since these were also years when expansion was straining the resources of primary education and spreading it thin — it is perhaps not surprising that it took more student hours of work at the secondary level, to achieve apparently only the same academic result.

2. Class and Ability Segregation among High Schools

a. Public vs. private high schools

Before World War II and even up to 1944, secondary education was available only to the few in Puerto Rico and those few were of high social origins. The public high schools were selective, elite institutions and the private schools were the refuge of those who had to pay for secondary education because they were unable to gain admission to the public schools. Since 1944, the expansion of public secondary education has produced a radical change in this situation. As these strata have become proportionally larger in the public high schools, the upper middle classes have increasingly withdrawn their children to the private high schools. Today the public and private high schools are different social and academic worlds. They are de facto class-segregated, and sharply so. The private high schools are now the preserves of the upper and upper-middle classes and contain a student body of homogeneously high measured ability.[1]

Table 15 has already illustrated in part how the situation has changed. There has been a complementary development in the private high schools.

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[1] The term "measured ability" is used advisedly. Tests, of whatever kind, measure only certain abilities, and all abilities are in large part a product of experience. I mean to avoid any implication that tests do or can isolate and measure "innate" ability.

These have grown neither faster nor more slowly than the public; they produced about the same proportion of the total high school graduates in 1960 as in 1940. However, in social composition they are now very distinct from the public high schools. Again we have the historical data only for University entrants and these are shown in Table 16. Between 1944 and 1960 the private high school graduates entering the UPR became increasingly upper-middle class in social composition. Further documentation of the different social worlds represented by the public and private sectors of secondary education is provided by Table 17, which shows the social composition of all high school seniors (not only graduates or University entrants) as represented in our 1960 sample survey. Over half the private school seniors came from the top two social strata- as contrasted with 18% of the public school seniors, and conversely over a third of the public school seniors came from the botton two strata as contrasted with 12% of the private school seniors.

This striking difference in social composition has many implications but one of the most direct is that it entails also a strong difference in the ability composition of the public and private school students. Social class and measured academic ability are correlated. Therefore, the different social worlds of public and private high schools are also different ability worlds.

This fact too can be documented from the sample survey. When all high school seniors of 1960 are divided into quintiles according to their scores on the ability test we administered, it turns out that 59% of the private school students fall into the top quintile and only 15% into the bottom 2 quintiles (Table 18).

TABLE- I-16

SOCIO-ECONOMIC STATUS OF FATHERS OF PRIVATE HIGH SCHOOL GRADUATES ADMITTED TO U.P.R. BY YEAR

	Type of High School and Year					
	Private Catholic			Other Private		
Occupation of Students' Father:	1944 %	1952 %	1960 %	1944 %	1952 %	1960 %
Professional, semi-professional and higher white-collar	33	34	50	37	48	69
Lower-white-collar	6	10	13	7	13	10
Retail proprietors	31	30	17	30	19	10
Manual workers	18	9	10	11	2	5
Farm owners and managers	10	7	5	9	2	1
Farm laborers and farm foremen	--	--	--	--	--	1
Other	2	10	5	6	16	4
Total	100	100	100	100	100	100
	(N=51)	(N-143)	(N=390)	(N=54)	(N=95)	(N=138)

TABLE- I-17

SOCIO-EDUCATIONAL STATUS OF PUBLIC AND PRIVATE HIGH SCHOOL SENIORS---1960

<table>
<tr><th></th><th>Public</th><th>Private</th></tr>
<tr><th></th><th colspan="2">Percent</th></tr>
<tr><th>SES Stratum</th><th></th><th></th></tr>
<tr><td>I (High)</td><td>8%</td><td>28%</td></tr>
<tr><td>II</td><td>10</td><td>25</td></tr>
<tr><td>III</td><td>16</td><td>23</td></tr>
<tr><td>IV</td><td>29</td><td>12</td></tr>
<tr><td>V</td><td>25</td><td>12</td></tr>
<tr><td>VI (Low)</td><td>12</td><td>--</td></tr>
<tr><td>Weighted N(100%)[a, b] =</td><td>(12,794)</td><td>(2,506)</td></tr>
</table>

---

a. Cases where socio-educational status could not be determined are omitted from the table.

b. The meaning of the term "weighted number" is explained in Part II which deals with the method and results of the sample survey.

TABLE- I-18

ABILITY DISTRIBUTION OF PUBLIC AND PRIVATE HIGH SCHOOL SENIORS, 1960

Ability Quintile	Public	Private
	Per Cent	
Top	19	59
2nd	21	13
3rd	20	13
4th	19	7
Bottom	21	8
Weighted N(100%)	(13,121)	(2,530)

Rodriguez Bou's data when broken down by public and private school freshmen, show that it was only the public school students whose performance "declined" between 1948 and 1959. The private school students scored better in both years, but their performance "improved" over the decade, making the difference in their favor larger in 1959.[1] The increasing superiority of private over public school freshmen is shown equally clearly in the actual entrance examination scores for 1944, 1952 and 1960. The private school students scored only a little higher than the public in 1944 but the gap had widened by 1952 and persisted in 1960. Table (19).

Table 20 shows further that private and public high school seniors scoring in the same quintile on the ability test administered during the sample survey of 1960 performed differently on the entrance examination. The difference is clear in the top ability quintile where the numbers are sufficiently large for reliable comparison. The most able public high school seniors did not reach the same scholastic achievement levels — as measured by the UPR entrance test — as did their ability peers in the private high schools. These entrance score trends explain why the private schools have been more and more disproportionately represented in the University freshman class. Table 22, which compares the University grades of public and private school graduates at the end of their freshman year, shows that the differences between them persisted to this point in their university careers. Since the freshman curriculum is about the same at Rio Piedras for all B.A. candidates, the freshman grades are comparable. This would not be true after the sophomore year when students scatter to different colleges according to their major fields. Table 22 shows a secular trend like that in Table 19. There were differences favoring the private schools in 1944 but they were relatively small. However, by 1952 the freshman performances of the private school graduates had become much better than those of public school graduates, and they remained so in 1960. It might be supposed that some of this difference between public and private school freshmen is attributable to dropouts during the freshmen year. However, this is extremely unlikely. Our study of freshman dropouts at Rio Piedras showed that they occurred most frequently among students who made low grades. This pattern tends to smooth out the differences in grades among different social sub-groups of University recruits, so much so, that by the time of University graduation no differences remain.[1] (Part I, Appendix Tables 18-19). b. Class Segregation among Public High Schools.

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[1] Rodriguez Bou, op. cit., pp. 23-42.

A considerable amount of class segregation in public secondary education, related to differences in social composition of communities, exists in the U.S.:

> "To call the thing by a name it invokes, segregation by social class exists to a discernible degree in American public high schools. Some high schools tend to "specialize" in students from socially advantaged middle class families, others in students from the working class or from farm families...
>
> Many of us are accustomed to think of school segregation in the narrow terms set by today's newspaper headlines, the separation of Southern Negro and white pupils into physically and administratively separate schools. In fact, segregation

---

[1] Another reason for the absence of differences in University graduation index among different groups of recruits is that they enter different colleges of the University each of which has some tendency to grade on a "normal curve". As a result, an "A" in one college does not mean the same quality of performance as an "A" in another; university graduation indexes from different colleges are not comparable.

TABLE I-19

PER CENT OF PUBLIC AND PRIVATE SCHOOL ENTRANTS TO UPR IN EACH ENTRANCE EXAMINATION QUINTILE, 1944-1960

	1944-45			1952-53			1960-61		
	Public	Private Catholic	Other Private	Public	Private Catholic	Other Private	Public	Private Catholic	Other Private
Entrance Exam Quintile:									
Top	19.2	24.1	27.5	16.1	46.3	33.6	10.5	36.2	39.0
2nd	19.0	22.2	23.5	17.2	26.3	21.7	16.1	29.0	26.7
3rd	21.2	18.5	9.8	20.1	13.7	22.4	20.3	18.1	17.9
4th	20.3	22.2	15.7	22.8	11.6	13.3	24.5	6.5	12.6
Bottom	20.3	13.0	23.5	23.7	2.1	9.1	28.6	10.1	3.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N =	(542)	(54)	(51)	(907)	(95)	(143)	(1148)	(138)	(390)

TABLE 20

ABILITY SCORE AND ENTRANCE EXAMINATION QUINTILE AMONG 1960 PUBLIC AND PRIVATE HIGH SCHOOL SENIORS

Public

Entrance Examination Quintile

Ability Quintile	Top	2nd	3rd	4th	Bottom	Total weighted N[a] (100%)
Top	37%	31%	21%	9%	2%	(2092)
2nd	11%	26%	26%	25%	12%	(1695)
3rd	3%	7%	21%	35%	34%	(1387)
4th	---	9%	11%	35%	45%	(671)
Bottom	---	17%	8%	25%	50%	(430)
						(6275)

Private

Ability Quintile	Top	2nd	3rd	4th	Bottom	Total weighted N[a] (100%)
Top	83%	16%	1%	---	---	(1039)
2nd	17%	15%	55%	13%	---	(119)
3rd	25%	7%	33%	35%	---	(57)
4th	---	---	56%	22%	22%	(18)
Bottom	31%	44%	---	25%	---	(32)
						(1265)

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[a] The total N's are lower than those for all high school seniors because more than half did not take the entrance examination.

TABLE I-21

PERCENTAGE OF RIO PIEDRAS FRESHMEN AT UPR WHO WERE PUBLIC OR PRIVATE SCHOOL GRADUATES COMPARED WITH THE PERCENTAGE OF HIGH SCHOOL DIPLOMAS AWARDED THE PREVIOUS YEAR BY PUBLIC AND PRIVATE HIGH SCHOOLS

	1944-45	1952-53	1960-61
		PER CENT	
Freshmen Graduated from:			
Public High Schools	84	80	69
Private Catholic High Schools	8	12	23
Other Private High Schools[a]	8	8	8
N = 100%	(647)	(1145)	(1676)

	1942-43	1951-52	1959-60
		PER CENT	
Diplomas Granted the Previous Year by:[c]			
Public High Schools	83	89	87
Private Catholic High Schools	9	7	
Other Private High Schools	8	4	all private: 13
N = 100%	(3196)	(9199)	(18,287)

---

[a] This includes non-sectarian high schools and Protestant denominational high schools. Each of these groups was too small to be considered separately for our purposes, so they have been combined into one group throughout this report.

[b] N's are lower than the total number of freshmen because some records did not supply this information.

[c] These data come from the annual reports of the Commissioner of Education for 1942-43; Tables 56, 58, and 59 for 1951-52, Tables 34, 35, and 43; for 1959-60 Table 44. In 1959-60 there was no breakdown which permitted an analysis of how many diplomas were granted by Catholic, Protestant denominational and non-sectarian high schools as there had been in the earlier reports.

TABLE - I-22

TYPE OF HIGH SCHOOL BY GRADE INDEX QUINTILE AT END OF FRESHMAN YEAR

Freshman Index Quintile	Year and Type of School								
	1944-45			1952-53			1960-61		
	Public %	Private Catholic %	Other Private %	Public %	Private Catholic %	Other Private %	Public %	Private Catholic %	Other Private %
1 (low)	20.1	17.6	20.5	24.9	7.7	11.4	27.6	11.2	13.1
2	16.9	19.6	13.6	21.7	11.0	19.7	24.2	13.4	17.5
3	19.7	21.6	20.5	19.6	17.6	23.5	20.7	15.7	22.5
4	23.3	29.4	13.6	18.4	18.7	20.4	16.7	20.9	22.0
5 (high)	20.0	11.8	31.8	15.4	45.0	25.0	10.8	38.8	24.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(N= 472)	(N= 51)	(N= 44)	(N= 838)	(N= 91)	(N= 132)	(N= 1118)	(N= 134)	(N= 382)

TABLE - I-23

OCCUPATION OF FATHERS OF UPR ENTRANTS FROM RURAL, URBAN AND METROPOLITAN PUBLIC HIGH SCHOOLS, 1944-1960

		Rural	Urban	Metropolitan
1944	1) Professionals Managers, Proprietors, and higher White Collar	(5)	28%	29%
	2) Small Business and lower White Collar	(3)	28	29
	3) Farmers	(2)	17	--
	4) Skilled Labor	(4)	12	16
	5) Other Labor	(-)	7	10
	6) All Other	(2)	8	9
		N= 16	N= (269) 100%	N= (253) 100%
1952	1)	11%	18%	25%
	2)	25	31	30
	3)	27	14	5
	4)	13	10	17
	5)	12	12	7
	6)	12	15	16
		N= (56) 100%	N= (490) 100%	N= (361) 100%
1960	1)	9%	15%	28%
	2)	24	32	30
	3)	16	12	--
	4)	17	17	24
	5)	21	12	10
	6)	13	12	11
		N= (114) 100%	N= (603) 100%	N= (428) 100%

> estends far beyond the borders of the old South. Moreover, as we have detailed it here, it does not even refer to the general separation of social groups into different schools in the same community; in the present sample of high schools, only a handful are located in the same town or city. The differences in social class profiles from one school to another occur across community boundaries as well as within them.
>
> If the term segregation is introduced to denote such differences, it must therefore be done with caution, for the word has come to be associated with administrative policies... When it is shown that the high school seniors in one community differ in their social origins from the seniors in another community, no such inference is either intended or needed. We have already documented the far simpler and more correct inference, that the socio-occupational structures of the two communities differ correspondingly. But this does not gainsay fully the use of the term segregation, for if the condition exists, it may lead to predictable consequences, no matter what its origins."[1]

Puerto Rico's communities also differ in socio-occupational composition, increasingly so as industrialization has progressed. Entrants to the UPR recruited from rural, urban and metropolitan communities have become more differentiated in terms of social origins since 1944. Table 23 shows the occupations of fathers of freshmen graduated from rural, urban and metropolitan public high schools for 1944, 1952 and 1960. In the earliest years, differences between graduates of urban and metropolitan high schools were slight; metropolitan graduates included fewer youths from agricultural families and more from families of manual laborers. This expectable difference persisted through 1960 but there also appeared a difference in the proportions of high and low status freshmen from schools in different communities. The metropolitan high schools hardly changed, but the rural and urban schools sent more low status freshmen to the university.

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[1] Ramsey, *op. cit.*, p. 217-18.

The 1960 sample survey provides evidence on the social composition of metropolitan, urban and rural public high school senior classes -- rather than just University entrants. Students were divided into six-socio-educational strata, according to their father's occupation and education. The seniors in metropolitan high schools were considerably more middle class than those in the urban or rural schools. (Table 24). The small, medium and large high schools in the sample[1] did not differ in social composition with size of community held constant.

This class segregation between the metropolitan and other public high schools of Puerto Rico would be sharper still but for the much lower rate of survival to the senior high school level in the urban and especially the rural areas. The low survival rate makes rural and urban high school seniors a more select group within their communities than those of the metropolitan area.

Another factor which at present minimizes differences in the social composition of high school senior classes between communities is the fact that students living in small communities sometimes attend high school in larger towns or cities. Table 25 classifies high school seniors according to their community of residence rather than according to where they attend school. It is clear that the social composition of seniors differs still more between rural, urban and metropolitan communities than between rural, urban and metropolitan schools.

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[1] There were only 14 high schools altogether in the sample, and the comparisons of small medium and large high schools are based on one school of each size in the urban- and 1 of each size in the metropolitan communities.

TABLE 24

SOCIO-EDUCATIONAL COMPOSITION OF RURAL, URBAN AND METROPOLITAN PUBLIC HIGH SCHOOLS, SENIOR CLASSES, 1960

Family SES:	Rural %	Urban %	Metropolitan %
I & II	18	17	23
III & IV	44	40	51
V & VI	38	43	26
Weighted N (100%)	(1741)	(6594)	(4151)

Perhaps the relatively high selectivity for secondary education within the rural and urban as versus the metropolitan communities explains the fact that despite differences in social composition, there is no consistent pattern of differences in ability composition between the rural, urban and metropolitan public high schools of our 1960 sample (Table 26); nor are there such differences between small and large public high schools (Table 27). However, one pattern demonstrated earlier by Rodríguez-Bou persisted in 1960: the small public high schools gave higher marks than the large schools did, with ability of the students held constant. (See Table 30, p. 66). Whether this tendency was an intentional part of the competitive struggle or not, it improved the chances of rural and small town students to enter the university.

The data presented in this section describe for Puerto Rico a trend which is equally important elsewhere, for instance in the metropolitan centers of the United States. It might be summed up by saying that class monopoly of secondary education has been succeeded by class segregation. Withdrawal of their children from the public secondary schools either to private schools or to public high schools in exclusive suburbs, is the upper and middle class response to the "invasion" of the high schools by the lower social strata.

The children of the culturally advantaged strata can learn more and faster in school than the children of the culturally deprived strata. So long as the number recruited to the high schools from the lower strata were few - and an especially able and motivated few - they did not affect the pace or "culture" of the school, but were rather absorbed into it. When they became a majority, however, the situation may be transformed. Instead of their becoming acculturated to the school, the school may become adapted to them. Under these circumstances or the expectation of them, the higher strata withdraw

TABLE 25

SOCIO-EDUCATIONAL COMPOSITION OF PUBLIC HIGH SCHOOL SENIORS, ACCORDING TO SIZE OF COMMUNITY OF RESIDENCE

	Rural	2500-5999	6,000-20,000	Standard Metropolitan Areas
SES:				
I & II	13%	16%	21%	32%
III & IV	37	37	41	46
V & VI	50	42	35	20
(no data)[a]	--	5	3	2
N(100%)	(3165)	(2398)	(3752)	(6316)

[a] This refers to lack of data on community of residence.

TABLE 26

ABILITY COMPOSITION OF RURAL, URBAN AND METROPOLITAN PUBLIC HIGH SCHOOL SENIOR CLASSES, 1960

	Rural %	Urban %	Metropolitan %
Ability Quintile			
5 (high)	23	15	22
4	17	21	21
3	24	18	20
2	20	24	14
1 (low)	16	22	23
N(100%)	(1744)	(7150)	(4362)

TABLE 27

ABILITY DISTRIBUTION IN GENERAL CURRICULUM OF URBAN AND METROPOLITAN PUBLIC HIGH SCHOOLS ACCORDING TO SIZE,1960

Size	Ability Quintile % (high) 5	4	3	2	(low) 1	Weighted N (100%)
URBAN						
300-499	21.2	21.2	16.2	15.2	26.3	(2,079)
500-999	14.9	21.1	17.4	22.4	24.2	(2,415)
1000 and more	14.5	22.9	21.2	25.7	15.6	(1,611)
METROPOLITAN						
100-299	21.9	34.4	18.8	12.5	12.5	(320)
500-999[a)]	10.0	17.3	24.0	23.3	25.3	(150)
1000 and more	19.0	18.1	18.6	14.0	30.3	(2,352)

[a)] There were no metropolitan public high schools in size class 300-499 in the sample.

their children to separate schools. Not only does this tend to "homogenize" the social composition of the student body in each type of secondary school, it homogenizes the ability composition as well.

Cumulating research evidence provides increasing reason to believe that the composition of the student body in a school has effects on scholastic performance over and above what can be explained by the characteristics of the individual members. Ramsey has demonstrated such an effect in American high schools: the ability test performance of high school seniors of all social strata goes up as the proportion of high stratum students in the senior class increases:

> "The more students from socially advantaged families, the higher the aptitude of all students, no matter what their own family background..... In earlier chapters the ecological underpinnings of social class segregation in American high schools were established; now the consequences of segregation come forth, this time in the guise of its effect on academic performance and potential."[1]

Alan Wilson has demonstrated similar effects of the social composition of the students among high schools in the San Francisco-Oakland Bay area and among primary schools in Berkeley, California. Wilson's data show social composition affecting college-going aspirations as well as academic performance, raising them as the higher strata become numerically more important.[2] Several authors including Wilson and McDill and Coleman have explored the mechanism through which these "compositional effects" occur. Prestige attaches to different kinds of students in schools of differing composition and prestigeful student cliques diffuse their values through the student body. Teacher expectations, low in schools of low social composition, function perhaps as self-fulfilling prophecies.[1]

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[1] Op. cit., pp. 90-291.

[2] Alan Wilson, "Residential Segregation of Social Classes and Aspirations of High School Sys." Amer. Sociological Review. Vol. 24, No. 6. Dec. 1954, pp. 836-845. "Social Stratification and Academic Achievement", in A. Harry Passow, editor, Education in Depressed Areas, Columbia Univ.-Press, N. Y. pp. 217-237. Ramsy on the other hand, found very little effect of social composition on college-going aspirations in her national sample of high schools. The compositional effect on ability is also clearly demonstrated in some unpublished data on the primary schools of Aberdeen,

Whatever the mechanisms, this new line of research indicates that social class segregation of the schools inhibits acquisition by the lower strata of middle class aspirational and achievement patterns.[2] The process of class segregation is not easily reversed because the lower strata, once recruited en masse, form a numerical majority in the secondary schools. The middle classes can no longer hope easily to acculturate a selected numerical minority. Instead they are in danger of becoming absorbed into an alien milieu themselves. The middle classes will go to great lengths to avoid this cultural downward mobility for their children.

Scotland, collected by Professor Raymond Illsley and his associates at the Obstetric Medicine Research Unit, Aberdeen Maternity Hospital.

[1] Edward McDill and James Coleman, "Family and Peer Influences in College Plans of High School Students," Sociology of Education Winter 1965, Vol. 38, No. 2, pp. 112-127.

[2] One small study of British grammar schools cross-classifies them by high or low ability and social composition and interprets the culture of each type as an attempt to minimize the effects of the dimensions on which it is low. That there are differences is indicated by the fact that a few schools classified in this way have different kinds of early leavers. The analysis was made by Douglas Young of the Sociological Research Unit, Institute of Education, University of London.

3. Segregated High Schools and University Recruitment

One significant result of drawing freshmen from secondary schools which have a broadening social base and increased internal segregation is already visible at the Río Piedras campus at U.P.R. There has appeared a correlation between the social origins of the students and their academic performance which did not formerly exist there. Entrants from the lower social strata now come, not only from culturally disadvantaged homes, but from academically disadvantaged high schools as well. The latter was not the case in the past.

The cumulative effect shows up in university performance. In 1944 there was no association between entrance examination scores and the social origins of freshmen at Río Piedras; but in 1952 and 1960 there was a clear association. The same is true of grades at the end of the freshman year (tables 31 and 32)[1]. The question immediately arises whether this division of entering freshmen into categories in which social origins and academic achievement vary together has had some structural consequences for the University. In the United States parallel developments in secondary education together with the expansion of higher education have had such consequences. There has been a great diversification of institutions of higher education. They differ widely

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[1] The association does not appear in grades at graduation. However, this is probable attributable to two factors already discussed: a) the dropouts from the University occur most heavily among low-performers and this smooths out differences among social subgroups, b) the different colleges of the University which the students enter in their sophomore year recruit somewhat different ability groups, cf. pp.   below, but each college "normalizes" its grades in relation to its own student population so that University graduation indexes are not comparable as between colleges.

TABLE 31

OCCUPATIONAL STATUS OF STUDENTS' FATHERS AND MEAN ENTRANCE EXAMINATION SCORE BY

	YEAR		
	1944-45	1952-53	1960-61
	Mean Entrance Examination Score		
Occupational Status of Students' Fathers:			
Professional, proprietary and executive	238	137	170
Semi-professional and higher white collar	236	129	161
Lower white collar	248	128	157
Small business	228	122	151
Skilled labor	239	121	146
Semi- and unskilled labor	230	117	143
Farmer	213	111	145
Farm laborer	*	*	138

* Fewer than 10 cases.

TABLE 32

OCCUPATIONAL STATUS OF STUDENTS' FATHERS AND MEAN FRESHMAN INDEX BY YEAR

	YEAR		
	1944-45	1952-53	1960-61
	Mean Freshman Index		
Occupational Status of Students' Fathers:			
Professional, proprietary and executive	2.13	2.46	2.49
Semi-professional and higher white collar	2.35	2.34	2.34
Lower white collar	2.46	2.33	2.14
Small business	2.15	2.24	2.06
Skilled labor	2.13	2.20	2.10
Semi- and unskilled Labor	2.30	2.33	2.04
Farmer	2.00	2.20	2.06
Farm Laborer	*	*	1.89

* Fewer than 10 cases.

in the nature and quality of their offerings and there are sharp differences in the social class and ability composition of their student populations which derive from those of the secondary schools they come from.[1]

An analogous development may be on the way in Puerto Rico. The private universities are taking an increasing proportion of high school graduates and the new community colleges will very likely evolve as distinctive types of institutions recruiting more heavily from the lower strata than the universities. However, the Río Piedras campus still absorbs about half of the Island's undergraduates. It is more broadly representative than any other single campus. In the next sections we shall examine trends in the recruitment patterns of the five undergraduate colleges at Río Piedras between 1944 and 1960, to discover whether there has yet been increased social and ability differentiation among them.

4. Social Origins and Choice of College at U.P.R.

In the early part of the 1940s a new administration at the University of Puerto Rico introduced a series of academic reforms. Chief among them was the initiation in 1943 of the four "basic" courses of the freshman year: physical sciences, biological sciences, humanities, and social sciences. They were taken by all freshmen except those in the two-year curricula and those entering the College of Pharmacy. And all freshmen took these courses in the College of General Studies. The former College of Liberal Arts was broken up into separate colleges of Humanities, Natural Sciences and Social Sciences. The colleges of Education and Business Administration remained separate entities, stripped of certain courses which were transferred to the new faculties. The College of Pharmacy for the most part remained unchanged during the early part of this reform period, but subsequently increased its four-year curriculum to five years in order to accommodate the basic courses which were progressively expanded and came to be required of all candidates for the Bachelor's Degree. By 1960, all students were taking a one-year basic course in physics and chemistry, in biology, social science, and mathematics and a two-year course in humanities, Spanish and English. All of these courses are offered in the College of General Studies except second year Spanish and English, which are offered in the College of Humanities.

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[1] Cf. Martin Trow, "The Democratization of Higher Education in America" European Journal of Sociology, Vol. III, No. 2, 1962, pp. 231-263. However, as Trow says, p. 239: "Educational inequalities linked to social class differences are not wiped out by the growth of mass higher education, but find their expression in internal differentiation of the system. Nevertheless, this is a very different kind of link between social class and educational opportunity than that provided by the elite university system which simply excludes the bulk of the lower classes from exposure to any kind of higher education."

Bachelor's Degree candidates spend their entire freshman year in the College of General Studies. At the beginning of the sophomore year they make their selection from among the Colleges of Humanities, Natural Sciences, Social Sciences, Business Administration, Education and Pharmacy or they may postpone their choice and remain temporarily "unclassified" students. Those who have decided on a college begin taking courses offered there while also finishing their basic courses during the sophomore year.

The proportion of Río Piedras students choosing each college in

1944, 1952 and 1960 is shown in Table 33. In 1944-45 the Colleges of Natural Science and Education were the largest on campus. By 1952, the College of Business Administration had outdistanced them. In 1960-61, the Business College maintained its dominant position; the College of Pharmacy had declined to the smallest campus; Humanities had grown to equal the size of Natural Sciences and Education, and Social Sciences was lagging behind.

In the decade of the fifties, when the public high schools were recruiting a higher proportion of their students from the lower social strata, the UPR campus at Rio Piedras reflected no similar trend. On the contrary, the professions and white collar occupations supplied a larger percentage of the student body. (Table 33a).

Table 34 shows changes in the occupational composition of each college over the period. Between 1944 and 1960, the College of Humanities became the most predominately professional and white collar college on the campus. Social Sciences followed this trend to lesser degree. The College of Natural Sciences remained much the same in its social composition throughout the period, resembling Humanities and Social Sciences in its high proportion of professional and white collar students. The College of Business Administration increased its professional, white collar and its working class representation, but had a decreasing proportion of students from small business families. The College of Pharmacy became more a place for the offspring of small business and working class families, while the children of professional, white collar and rural families chose it less. The top occupational stratum of

TABLE 33

PERCENT OF STUDENTS ENTERING THE VARIOUS COLLEGES AT THE RIO PIEDRAS CAMPUS OF U.P.R., BY YEAR

College Entered	YEAR 1944-45[1] %	 1952-53[2] %	 1960-61[3] %
Humanities	4.3	4.4	19.5
Natural Sciences	33.8	21.8	19.3
Social Sciences	8.9	16.0	12.0
Education	30.7	22.8	19.0
Business Administration	11.0	30.4	27.8
Pharmacy	11.3	4.6	2.4
Total	100.0	100.0	100.0
	(N= 538)	(N= 897)	(N= 1397)

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[1] Does not include 3 students who transferred to the Mayaguez Campus; 24 classified as Irregular or Extension students; 19 who transferred to two-year courses; or 66 who dropped out before the sophomore year.

[2] Does not include 85 students who transferred to the Mayaguez Campus; 46 classified as Irregular or Extension students; 92 who transferred to two-year courses; or 141 who dropped out before the sophomore year.

[3] Does not include 29 students who transferred to the Mayaguez Campus; 14 classified as Extension students; 109 who transferred to two-year courses; or 200 who dropped out before the sophomore year.

TABLE 33 a

OCCUPATIONAL COMPOSITION OF STUDENTS' FATHERS
AT RIO PIEDRAS BY YEAR

	1944-45	1952-53	1960-61
Professional and white collar	40.7%	41.3%	49.5%
Small business	24.3%	24.0%	17.6%
Urban manual	22.3%	22.0%	24.8%
Agriculture	12.7%	12.7%	8.1%
	100.0%	100.0%	100.0%
N =	(511)	(766)	(1248)

TABLE 34

OCCUPATIONAL COMPOSITION OF STUDENTS' FATHERS BY COLLEGE BY YEAR

	Students' Fathers Occupation 1944-45						Students' Fathers Occupation 1952-53					
Students in:	Professional & White Collar	Small Business	Urban Manual	Agricultural Occupation		Total	Professional & White Collar	Small Business	Urban Manual	Agricultural Occupation		Total
Humanities	39.1%	17.4	30.5	13.0	100.0%	(N=23)	42.9%	20.0	25.7	11.4	100.0%	(N=35)
Natural Sciences	50.0%	18.0	22.1	9.9	100.0%	(N=172)	51.8%	23.8	16.3	8.1	100.0%	(N=172)
Social Sciences	28.9%	28.9	31.1	11.1	100.0%	(N=45)	48.0%	25.6	17.3	9.1	100.0%	(N=121)
Business	32.2%	37.5	19.6	10.7	100.0%	(N-56)	38.0%	26.2	25.8	10.0	100.0%	(N=229)
Education	30.6%	30.6	23.6	15.2	100.0%	(N=157)	30.3%	20.6	27.4	21.7	100.0%	(N=175)
Pharmacy	58.6%	12.1	12.1	17.2	100.0%	(N-58)	41.2%	26.5	11.7	20.6	100.0%	(N=34)
Total	40.7%	24.3	22.3	12.7	100.0%		41.3%	24.0	22.0	12.7	100.0%	
	(N=208)	(N=124)	(N=114)	(N-65)	(N=511)		(N=316)	(N=184)	(N=169)	(N=97)	(N=766)	

STUDENTS' FATHERS OCCUPATION

1960-61

Professional & White Collar	Small Business	Urban Manual	Agricultural Occupational		Total
60.9%	16.6	15.8	6.7	100.0%	(N=253)
53.7%	13.7	26.7	5.9	100.0%	(N=255)
54.7%	14.9	21.0	9.4	100.0%	(N=148)
47.5%	20.4	24.5	7.6	100.0%	(N=368)
33.1%	19.8	34.7	12.4	100.0%	(N=242)
46.9%	21.9	28.1	3.1	100.0%	(N= 32)
49.5%	17.6	24.8	8.1	100.0%	
(N=642)	(N=229)	(N=322)	(N=105)	(N=1298)	

professional and white collar families has been relatively underrepresented at the College of Education throughout the period; in 1952 students from agricultural families were most represented there, but in 1960 children of urban working-class families were the group with the heaviest representation at this College.

Table 35 shows the proportion of public and private school graduates in each college, 1944 to 1960. On the campus as a whole there was a steadily declining proportion of public school graduates. Looking at the individual colleges the proportions of private and public school graduates reflect trends parallel to those shown in Table 34. But Table 35 adds some interesting information. The private religious schools were mainly Catholic and in 1944 these students were most represented in the College of Business Administration. It was the graduates of other private schools who were most represented in the Humanities College. Public School graduates were most represented in the College of Education. By 1952, the Catholic school graduates were overrepresented in Natural Sciences, Pharmacy, and Social Sciences; it was still the graduates of non-Catholic private schools who were most heavily recruited to Humanities. But by 1960, the latter situation had changed, and the Catholic school graduates were the most overrepresented in the College of Humanities.

It is not surprising to learn from Table 36 that boys were consistently overrepresented in the Colleges of Natural Sciences and Business Administration and girls in the College of Education. This was true in 1944. In 1952, the girls were overrepresented in Humanities and Pharmacy as well, though not to such a great degree as in Education.

TABLE 35

COLLEGE ENTERED BY TYPE OF HIGH SCHOOL BY YEAR:

	1944				1952				1960			
Type of High School	Public	Private Religious	Other Private	Total	Public	Private Religious	Other Private	Total	Public	Private Religious	Other Private	Total[1]
College Entered:												
Humanities	65.2%	13.1	21.7	100.0%	65.8%	7.9	26.3	100.0%	54%	33	13	100.0%
Natural Sciences	82.4%	11.0	6.6	100.0%	72.5%	13.8	13.7	100.0%	62%	27	11	100.0%
Social Sciences	79.2%	10.4	10.4	100.0%	72.1%	11.8	16.1	100.0%	70%	20	10	100.0%
Education	87.2%	5.5	7.3	100.0%	88.0%	6.0	6.0	100.0%	88%	9	3	100.0%
Business	79.7%	15.3	5.0	100.0%	78.4%	8.3	13.3	100.0%	69%	26	5	100.0%
Pharmacy	86.9%	3.3	9.8	100.0%	78.9%	13.2	7.9	100.0%	71%	26	3	100.0%
Other	91.3%	6.5	2.2	100.0%	81.0%	5.6	13.4	100.0%	69%	23	8	100.0%
	83.7%	8.7	7.6	100.0%	78.2%	9.2	12.6	100.0%				
Total number	(488)	(51)	(44)	(583)	(787)	(92)	(127)	(1006)	(919)	(314)	(105)	(1338)

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[1] This total does not add to 1749 because it does not include 200 students who dropped out before the sophomore year, 109 students who transferred to a 2-year course, 29 transferred to the Mayaguez Campus, 14 with "extension courses" classification, nor 59 whose school of origin was unknown.

This was true in 1944. In 1952, the girls were overrepresented in Humanities and Pharmacy as well, though not to such a great degree as in Education. And in 1960, the girls were overrepresented in Education, Pharmacy and Social Sciences.

Looking at the rural-urban composition of the Rio Piedras campus in Table 32, one sees that the proportion of urban, rural and metropolitan residents remained about the same over the period studies despite the fact that youngsters from farm families had declined; this means that the children of non-farm rural families are coming in greater numbers to the University.

In 1944 the Colleges of Education and Pharmacy had an overrepresentation of urban students, and Business Administration and Social Sciences of metropolitan students. In 1952 and continuing into 1960, Education and Pharmacy had an overrepresentation of rural and urban students, and Humanities, Social Sciences, Natural Sciences and Business Administration of metropolitan students.

We can now summarize the information concerning social composition of the student body, college by college:

1. The College of Humanities has grown sharply in size and become increasingly a college for upper middle class students from the metropolitan areas. In 1952, it was overchosen by girls. In 1944, it was overchosen by the graduates of non-denominational private schools, but in 1960 it was more preferred by the graduates of private religious, mainly Catholic, schools.
2. The College of Natural Sciences has been consistently since 1944 a college drawing heavily on boys of top social status from professional and white collar families.

3. Social Sciences has become a college for students from professional, white collar and metropolitan families between 1944 and 1960, and in 1960 it seemed to be drawing more heavily than before from among girls.
4. Education has become more and more definitely the college of working-class, public school, small-town and rural students and has always drawn most heavily from among girls.
5. Business Administration is primarily a boys' college which in 1944 had an overrepresentation from small business families but now draws more from metropolitan, professional and white collar families.
6. Pharmacy, which in 1944 was mainly a college for students of professional and white collar families, and for boys as well as girls, has become more a college for students from small business and manual workers' families, and now draws more heavily from among girls.

5. Academic Achievement and Choice at U.P.R.

Entrance examination scores and grade indexes at the end of the freshman year can be used to measure the academic achievement of the students choosing the various colleges. Table 38 shows the entrance examination scores.

In 1944-45, the rank order of the colleges according to entrance scores is shown by reading from left to right. Humanities was first, Natural Sciences second, and so on. In 1952 Natural Sciences replaced Humanities in first place and far outranked any other college. Humanities, Social Sciences and Pharmacy were about equal; Business Administration was quite a step lower and Education a good deal lower still.

In 1960, Natural Sciences was still first in rank by very far; Humanities was second; Busines was third; Social Sciences fourth; Pharmacy fifth and Education again at the bottom.

It is interesting in view of this rank order based on entrance examination scores to look at Table 37 which ranks the students choosing various colleges according to mean high school graduation index. It is immediately apparent that while the two rank orders were alike in 1944, they were different in both 1952 and 1960. Table 40 directly compares the two rank orders by year. The "benefits" of using the non-comparable high school grades as half the basis of admission went in 1952 to the entrants of the College of Business and Social Sciences, in 1960 mainly to students entering the College of Education, whose high school indexes placed them in second rank, while their entrance examination scores placed them at the bottom.[1]

Students entering all colleges had increased their high school academic credits between 1944 and 1960. Pharmacy had the largest increase and Business the smallest with the other Colleges very much alike. There were great differences among Colleges in Spanish preparation in 1944, but the Colleges which were then at the bottom in this respect received students with increased preparation in Spanish over the period studied

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[1] High schools, like colleges, tend to normalize their grade distributions in relation to their own population of students. In Puerto Rico the large high schools gave lower grades to students of the same ability than small high schools (see Table below). Many graduates of small rural high schools would never be able to enter the University but for the advantage that the relatively "easy" grading of their high schools gives them. For a similar phenomenon in the primary schools of Berkeley, California, cf. Alan Wilson, op. cit., pp. 229-230.

TABLE 30

HIGH SCHOOL INDEXES OF THE TOP TWO ABILITY QUINTILES BY SIZE OF PUBLIC HIGH SCHOOL, 1960

Size of High School:	Top Quintile % A	B	C	Less than C	Next to Top Quintile % A	B	C	Less than C
100 - 299	29	14	57	0 = 100%	17	33	42	8 = 100%
300 - 499	24	46	30	0 = 100%	30	47	33	0 = 100%
500 = 999	7	74	19	0 = 100%	1	45	54	0 = 100%
1000 /	8	59	32	1 = 100%	8	27	60	5 = 100%

TABLE 36

SEX COMPOSITION OF STUDENT BODY BY COLLEGE BY YEAR

	1944-45			1952-53			1960-61		
Colleges:	Male	Female	Total %	Male	Female	Total %	Male	Female	Total %
Humanities	52.2%	47.8	100.0	48.7%	51.3	100.0	45.0%	55.0	100.0
Natural Sciences	69.8%	30.2	100.0	71.9%	28.1	100.0	53.0%	47.0	100.0
Social Sciences	52.1%	47.9	100.0	56.0%	44.0	100.0	40.0%	60.0	100.0
Education	15.1%	84.9	100.0	23.0%	77.0	100.0	24.0%	76.0	100.0
Business Administration	83.0%	17.0	100.0	74.5%	25.5	100.0	67.0%	33.0	100.0
Pharmacy	45.9%	54.1	100.0	47.5%	52.5	100.0	24.0%	76.0	100.0
Other[1]	33.3%	66.7	100.0	90.3%[3]	9.7	100.0			
	48.7%	51.3	100.0	57.9%	42.1	100.0	48.0%	52.0	100.0
Total number	(275)	(290)	(565)	(540)	(393)	(333)[4]	(666)	(731)	(1397)[5]

1. Includes 35 students who entered the College of Agriculture and Mechanical Arts, 11 with an "irregular" classification, and 13 with an "extension courses" classification.
2. This total does not add to 650, the total number of the freshman students in the B.A. program in 1944-45, because the figures do not include 66 students who dropped out before the sophomore year and 19 students who transferred to a 2-year course.
3. Includes 85 students who entered the College of Agriculture and Mechanical Arts, 39 with an "irregular" classification, and 97 with "extension courses" classification.
4. This total does not add to 1166, the total number of freshman students in the B.S. program in 1952-53 because the figures do not include 141 students who dropped out before the sophomore year nor 92 students

SECTION 1

TABLE 37

RURAL-URBAN COMPOSITION OF STUDENT BODY BY COLLEGES BY YEAR

1944-45			1952-53				1960-61			
rban	Metro-politan	Total	Rural	Urban	Metro-politan	Total	Rural	Urban	Metro-politan	Total
39.1	52.2	100.0	5.1	41.0	53.9	100.0	8%	30	62	100.0
37.4	52.2	100.0	10.4	31.8	57.8	100.0	9%	31	60	100.0
33.3	56.3	100.0	9.9	37.6	52.5	100.0	5%	38	57	100.0
43.0	46.1	100.0	15.5	56.0	28.5	100.0	21%	51	28	100.0
35.6	57.6	100.0	10.1	37.5	52.4	100.0	7%	38	55	100.0
45.9	44.3	100.0	15.0	50.0	35.0	100.0	18%	58	24	100.0
40.7	48.2	100.0[2]	9.3	42.6	48.1	100.0	10%	38	52	100.0
39.6	50.3	100.0	11.2	41.3	47.5	100.0				
(224)	(284)	(565)	(105)[3]	(385)	(443)	(933)[4]	(141)	(533)	(723)	(1397)[5]

r course.

to 1749 because it does not include 200 students who dropped out before the sophomore year, 109 students who transfer-
who transferred to the Mayaguez Campus nor 14 with "extension courses" classification.(Belong to Table 36).
entered the College of Agriculture and Mechanical Arts, 11 with an "irregular" classification, and 13 with "extension

to 650, the total number of freshmen students in the B.A. program in 1944-45, because the figures do not include 66
efore the sophomore year and 19 students who transferred to a 2-year course.
entered the College of Agriculture and Mechanical Arts, 39 students with an "irregular" classification, and 7 students
lassification.

to 1166, the total number of freshmen students in the B.A. program in 1952-53, because the figures do not include 141
efore the sophomore year and 92 students who transferred to a 2-year course.
to 1749 because it does not include 200 students who dropped out before the sophomore year, 109 students who

TABLE 37

RURAL-URBAN COMPOSITION OF STUDENT BODY BY COLLEGES BY YEAR

Colleges:	1944-45 Rural	Urban	Metro-politan	Total	1952-53 Rural	Urban	Metro-politan	Total	1960-61 Rural	Urban	Metro-polit
Humanities	8.7%	39.1	52.2	100.0	5.1	41.0	53.9	100.0	8%	30	62
Natural Sciences	10.4%	37.4	52.2	100.0	10.4	31.8	57.8	100.0	9%	31	60
Social Sciences	10.4%	33.3	56.3	100.0	9.9	37.6	52.5	100.0	5%	38	57
Education	10.9%	43.0	46.1	100.0	15.5	56.0	28.5	100.0	21%	51	28
Business Administration	6.8%	35.6	57.6	100.0	10.1	37.5	52.4	100.0	7%	38	55
Pharmacy	9.8%	45.9	44.3	100.0	15.0	50.0	35.0	100.0	18%	58	24
Other[1]	11.1%	40.7	48.2	100.0 [2]	9.3	42.6	48.1	100.0	10%	38	52
	10.1%	39.6	50.3	100.0	11.2	41.3	47.5	100.0			
Total number	(57)	(224)	(284)	(565)	(105)[3]	(385)	(443)	(933)[4]	(141)	(533)	(723)

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who transferred to a 2-year course.

5. This total does not add to 1749 because it does not include 200 students who dropped out before the sophomore year, 109 students w red to a 2-year course, 29 who transferred to the Mayaguez Campus nor 14 with "extension courses" classification.(Belong to Table 36)

1. Includes 3 students who entered the College of Agriculture and Mechanical Arts, 11 with an "irregular" classification, and 13 with courses" classification.

2. This total does not add to 650, the total number of freshmen students in the B.A. program in 1944-45, because the figures do not i students who dropped out before the sophomore year and 19 students who transferred to a 2-year course.

3. Includes 8 students who entered the College of Agriculture and Mechanical Arts, 39 students with an "irregular" classification, an with "extension courses" classification.

4. This total does not add to 1166, the total number of freshmen students in the B.A. program in 1952-53, because the figures do not students who dropped out before the sophomore year and 92 students who transferred to a 2-year course.

5. This total does not add to 1749 because it does not include 200 students who dropped out before the sophomore year, 109 students w

TABLE 38

ENTRANCE EXAMINATION QUINTILE OF ENTERING FRESHMEN BY COLLEGE BY YEAR

1944-45				1952-53						1960-61					
Soc. Scien-ces %	Busi-ness %	Phar-marcy %	Edu-ca-tion %	Human-ities %	Nat. Scien-ces %	Soc. Scien-ces %	Busi-ness %	Phar-macy %	Edu-ca-tion %	Human-ities %	Nat. Scien-ces %	Soc. Scien-ces %	Busi-ness %	Phar-macy %	Edu-ca-tion %
21	13	18	22	13	5	12	16	12	26	17	9	19	16	18	35
10	22	26	27	18	7	16	21	15	31	18	14	25	19	33	23
19	31	28	24	20	15	24	24	25	21	17	14	19	26	9	19
19	17	16	17	23	31	25	22	28	16	20	29	26	19	28	12
31	17	12	10	26	42	23	17	20	6	28	34	11	20	12	11
100	100	100	1100	100	100	100	100	100	100	100	100	100	100	100	100
=48)	(N=59)	(N=61)	(N-165)	(N=39)	(N=191)	(N=141)	(N=267)	(N=40)	(N=200)	(N=273)	(N=270)	(N=167)	(N=389)	(N=33)	(N=265)

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se, 29 transferred to the Mayaguez Campus nor 14 with "extension courses" classification

SECTION 2

TABLE 38

ENTRANCE EXAMINATION QUINTILE OF ENTERING FRESHMEN BY COLLEGE BY YEAR

Entrance Examination Quintile (Low to High)	1944-45						1952-53						1		
	Human-ities %	Nat. Scien-ces %	Soc. Scien-ces %	Busi-ness %	Phar-marcy %	Edu-ca-tion %	Human-ities %	Nat. Scien-ces %	Soc. Scien-ces %	Busi-ness %	Phar-macy %	Edu-ca-tion %	Human-ities %	Nat. Scien-ces %	Soc Scie ces %
1 (low)	17	6	21	13	18	22	13	5	12	16	12	26	17	9	19
2	9	14	10	22	26	27	18	7	16	21	15	31	18	14	25
3	4	18	19	31	28	24	20	15	24	24	25	21	17	14	19
4	26	27	19	17	16	17	23	31	25	22	28	16	20	29	26
5 (high)	44	35	31	17	12	10	26	42	23	17	20	6	28	34	11
Total	100	100	100	100	100	1100	100	100	100	100	100	100	100	100	100
	(N=23)	(N=182)	(N=48)	(N=59)	(N=61)	(N-165)	(N=39)	(N=191)	(N=141)	(N=267)	(N=40)	(N=200)	(N=273)	(N=270)	(N=16

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transferred to a 2-year course, 29 transferred to the Mayaguez Campus nor 14 with "extension courses" classification

TABLE 39

MEAN HIGH SCHOOL INDEX BY COLLEGE ENTERED BY YEAR

COLLEGE ENTERED	MEAN HIGH SCHOOL INDEX AND YEAR		
	1944-45	1952-53	1960-61
Humanities	2.84	2.93	3.17
Natural Sciences	2.92	3.22	3.42
Social Sciences	2.81	2.98	3.16
Education	2.73	2.61	3.37
Business	2.62	2.99	3.10
Pharmacy	2.78	3.16	3.38

TABLE 40

RANK ORDER OF COLLEGES ON HIGH SCHOOL INDEX AND ENTRANCE EXAMINATION SCORE OF STUDENTS WHO CHOSE THEM, BY YEAR

College	1944-45		1952-53		1960-61	
	High School Index	Entrance Examination	High School Index	Entrance Examination	High School Index	Entrance Examination
Humanities	2	1	5	2	4	2
Natural Sciences	1	2	1	1	1	1
Social Sciences	3	3	4	3	5	5
Business	6	4	3	5	6	4
Education	5	5	6	6	2	6
Pharmacy	4	6	2	4	3	3

and by 1960, they were all about the equal in this respect.

In English preparation there was also a smoothing out except that it was a decline rather than increase. Students entering Natural Sciences, Humanities and Education offered the most preparation in English in 1944, but also decreased the most over the period studied, so that by 1960 the Colleges did not differ very much in this respect. All Colleges received students offering more preparation in Mathematics over the period studied, but this was least true of the Colleges of Business Administration and Social Sciences.

To summarize: Natural Sciences and Humanities have recruited the academically top freshmen and Education the academically least able throughout the period studied and Business Administration and Social Sciences have fallen somewhere in between.

There is a little warrant in the recruitment patterns just examined for an association that the colleges at Rio Piedras became more differentiated by social class and ability composition between 1944 to 1960. Some of the colleges have changed their rank positions, but the differences seem neither greater nor less overall than they were at the end of World War II. The greatest changes perhaps occurred in Humanities and Pharmacy, with the former growing from a small but representative college to an average-sized college which is more predominantly upper -middle-class and more patronized by the female graduates of private Catholic high schools than any other. Conversely, Pharmacy declined in size and changed from very predominantly upper middle class to about representative. The College of Natural Sciences has been quite stable in its leading position with respect to the recruitment of academically able students and stable as well in its largely male and middle-class character. Social Sciences and Business have changed rather gradually.

One other trend is worthy of note. In 1944 the College of Education was fairly representative of all social strata except the top, and while its ability composition was at the low end of the continuum, it did not differ much from that of the socially more exclusive College of Pharmacy. However, Education has recruited more and more predominantly from the low social strata and the lowest ability groups.[1] Its pattern of recruitment in 1960 was not unusual, however, in world perspective. In the continental United States, too, Education recruited very heavily from among girls and from the low ability groups.[2] In Europe, the selective school systems separate the training of teachers for the primary levels into institutions with less difficult curricula and lower entrance requirements than the universities demand; only the teachers for the selective secondary schools are university-trained.

The expanded numbers and lowered selectivity among recruits to teaching is of course related everywhere to the expanded numbers and lowered selectivity among the sutdents they will teach. As the number of teachers needed becomes larger, recruitment necessarily becomes less selective, and this is a problem for school systems everywhere.

C. Social Disparities in Recruitment to Higher Education

Unlike the public high schools, the Rio Piedras campus did not increase its recruitment from the manual occupational strata in the postwar period. Table 33a showed that it was the agricultural and small business categories which declined in representation; but the table took no account of the changing composition of the population. In this section we shall look at "participation rates" of the various social groups on the Rio Piedras campus between 1944 and 1960, controlling for their changing population size.

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[1] This again refers to "measured ability" and says nothing about innate ability.

[2] Cf. James Davis, Great Aspirations, NORC, University of Chicago, March 1963, Report No. 90, pp. 151-159.

No matter how egalitarian the policies of the leadership, disparities of social participation in higher education exist everywhere. The most visible disparity in Puerto Rico and the one which has most seriously concerned Puerto Rican educators, has been that between rural and urban children. The rural schools have offered fewer years of schooling, less adequately trained teachers and inferior physical facilities as compared with urban schools. Rural families, mainly in Puerto Rico the families of agricultural wage laborers, have generated no strong demand for education.[1] Rural students drop out of primary school during the first four years in much greater proportions than do urban students.[2] Those few who stay in school longer, especially if they stay until senior high school, almost unanimously plan to enter non-agricultural occupations. School offerings in vocational agriculture have failed to attract any substantial numbers of students.[1]

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[1] "The 1940 Census of Agr. reported that ... 3/4 of the total (farms) ... contained only 20% of all the crop, land, and only 12.3% of the total value of land, buildings, implements, and machinery. The pattern of holdings has not changed in any important respect since the beginning of the 20th century... The great majority of the rural population in Puerto Rico are landless laborers who work for wages". Perloff, op. cit. The last statement still is true.

[2] Fewer than a quarter of the rural students who entered, as compared with about three quarters of urban school entrants, were reaching junior high school in the 1950s. Cf. Ismael Rodríguez Bou, Facilidades Educativas de Puerto Rico, pp. 96-201.

The rural-urban disparity shows up very sharply in college-going rates. Only a tiny proportion of Rio Piedras freshmen are rural residents although such residents are a majority in Puerto Rico. The college campuses not included here may have a somewhat higher rate of rural recruitment than does the Rio Piedras campus which is located in the Island's largest metropolitan area. On the other hand, Rio Piedras has the major teacher training program on the Island and this program attracts rural girls in large numbers. Despite the low rate overall of rural recruitment, Table 8 shows the effects of recently increased school holding power in the rural areas. The rural population has continued its decline since World War II, but the proportion of freshmen from rural areas coming to Rio Piedras, U.P.R. has increased.

2. Disparity between the Sexes

The relative propensities of Puerto Rican boys and girls to remain in school through high school graduation and to go on for college education are shown in Table 9. These data are affected by the fact that both World War II years and Korean War years are included. During World War II, the majority of the U.P.R. enrollment was female, but since the end of the Korean War the proportion of students who are female has steadily declined. Table 9 shows the tendency, familiar from US data, for girls to be more likely to finish high school than boys (although their superiority in Puerto Rico was only very slight

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[1] Symptomatic of this, the enrollment in the College of Agriculture was roughly 4% of the enrollment in the University of Puerto Rico in the late 50s.

TABLE 8

PER CENT OF THE AGE GROUP WHICH WAS RURAL AND URBAN COMPARED WITH THE PROPORTIONS OF RURAL AND URBAN FRESHMEN

	1944-45				1952-53				1960-61			
	Rural		Urban		Rural		Urban		Rural		Urban	
18 years old	65%	+	35%	=100%	59%	+	41%	=100%	56%	+	41%	=100%
Freshmen in B.A. programs at Rio Piedras, U.P.R.	4%	+	96%	=100%	5%	+	95%	=100%	7%	+	93%	=100%

TABLE 9

PERCENT OF THE AGE GROUP MALE AND FEMALE COMPARED WITH THE PROPORTIONS OF MALES AND FEMALES AMONG HIGH SCHOOL GRADUATES AND COLLEGE STUDENTS ACCORDING TO YEAR

	1943-44		1951-52		1958-59	
	Males	Females	Males	Females	Males	Females
Age Group[a] (18 year olds)	50%	50%	50%	50%	50%	50%
High School Graduates[b]	38%	62%	44%	56%	48%	52%
	1944-45		1952-53		1959-60	
University of Puerto Rico total enrolment[c]	35%	65%	51%	49%	56%	44%

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[a] Figures obtained by interpolation from census data.

[b] Figures from annual reports of the Commissioner of Education.

[c] Figures from the University of Puerto Rico Planning Office, mimeographed.

in 1959-60) and at the same time to be less likely than boys to go on for higher education.

3. Social Class Disparities

A third type of disparity in educational participation which appears in all nations is the difference between youths from different social classes. To examine this trend, as it applied to college-going in Puerto Rico, freshmen from the three years studied were classified according to their fathers' occupations, and the distribution of occupations among freshmen fathers was compared with the occupational distribution of the male labor force. Since the average age of freshman fathers was not precisely known, two comparisons were made; first , fathers were compared with the employed civilian male labor force aged 45 years and over, and second, for 1952 onward they were compared with the labor force aged 35 years and over. The results are about the same for the two comparisons. A small amount of regrouping of occupations was done to make census data more comparable with the classification of occupations used for freshman fathers.

The social class disparities in college-going shown in this analysis are actually an underestimate since it was not possible to correct for the differential fertility of the occupational categories due to lack of data. However, we know that the upper social and occupational strata have relatively few children and the lower strata relatively many. Therefore the "overrepresentation" of the former and "underrepresentation" of the latter at the University is greater than estimated in Tables 10 through 13 below.

TABLE I-10

OCCUPATIONS OF FRESHMAN FATHERS COMPARED WITH OCCUPATIONS OF ALL EMPLOYED CIVILIAN MALES AGED 45 AND OVER

	1944-45		1952-53		1960	
	Population	Freshman Fathers	Population	Freshman Fathers	Population	Freshman Fathers
Professional	2.4%	11.0%	2.9%	9.1%	3.0%	13.9%
Semi-professional	0.3	19.2	.5	13.4	.7	7.7
Managers, Officials & Proprietors	4.9	1.7	6.1	3.4	5.8	4.6
Small Business	5.3	24.7	5.8	24.6	7.0	17.2
Clarical, Sales & Kindred	4.6	7.2	7.0	14.7	9.6	21.7
Skilled Workers	8.9	14.9	11.0	12.8	13.0	16.4
Semi-and unskilled workers	17.2	7.9	21.0	9.6	25.6	9.8
Farmers and farm managers	21.4	12.7	14.3	11.4	8.1	7.4
Farm laborers and Foremen	35.0	0.7	31.4	1.0	27.2	1.3
	100.0%	100.0	100.0	100.0	100.0	100.0
N =		(547)		(1145)		(1676)

TABLE I-11

FRESHMAN FATHERS COMPARED WITH POPULATION AGED 35 AND OVER

	1952-53		1960	
	Population	Freshman Fathers	Population	Freshman Fathers
Professional	3.3%	9.1%	3.8%	13.9%
Semi-Professional	0.7	13.4	1.0	7.7
Managers, Officials, and proprietors	4.4	3.4	6.0	4.6
Small Business	6.6	24.6	6.0	17.2
Clarical, Sales and Kindred	7.7	14.8	10.2	21.7
Skilled Workers	11.7	12.8	14.1	16.4
Semi- and Unskilled Workers	23.6	9.6	27.9	9.8
Farmers and Farm Managers	10.8	11.4	6.2	7.4
Farm Laborers and Foremen	31.2	1.0	24.8	1.3
	100.0%	100.0	100.0	100.0

TABLE 12

SELECTION RATIOS -- MALES AGED 45 AND OVER

Occupation	1944-45	1952-53	1960
Professional	4.5	3.1	4.6
Semi-Professional	63.6	26.8	10.8
Managers, Officials, and Proprietors	.3	.5	.8
Small Business	4.6	4.2	2.5
Clarical, Sales and Kindred	1.5	2.1	2.3
Skilled Workers	1.6	1.2	1.3
Semi- and Unskilled Workers	.4	.5	.4
Farmers and Farm Managers	.5	.8	.9
Farm Laborers and Foremen	.01	.03	.05

TABLE 13

SELECTION RATIOS -- MALES AGED 35 AND OVER

Occupation	1952-53	1960
Professional	2.8	3.6
Semi-Professional	19.1	7.6
Managers, Officials, and Proprietors	.8	.8
Small Business	3.7	2.9
Clerical, Sales and Kindred	1.9	2.1
Skilled Workers	1.1	1.2
Semi- and Unskilled Workers	.4	.3
Farmers and Farm Managers	1.1	1.2
Farm Laborers and Foremen	.03	.05

It should first be noted, looking at Table 10, that the occupations which grew over the period studied were tied to urban and industrial growth: the white-collar and industrial manual categories. The agricultural occupations declined and the professions and small business remained stable.

To analyze the relative share of each occupational stratum in the expansion of college-going, Table 10 compares trends of occupational growth with trends in recruitment to the freshman class. The higher professional categories remained a stable proportion of the freshman class as they did of the labor force. Semi-professionals, only a tiny proportion of the labor force, were a large proportion of the class entering in 1944 and thereafter declined drastically. The Rio Piedras campus has an undergraduate College of Pharmacy. Pharmacists, classified as semi-professionals, evidently handed the occupation down to their sons in the earlier period and were very strongly represented on this campus. Thereafter the College of Pharmacy declined from 11 percent to 2 percent of the student body at Rio Piedras as the occupation became more feminine.

The white-collar occupations grew as a proportion of both the labor force and the freshman class over the period studies; and the agricultural occupations declined as proportion of both. Small business families had a lower representation on the Rio Piedras campus in 1960 than formerly. The results for Table 11 follow the same main outlines.

A clearer comparison between occupations and between years is obtained by dividing each occupation's proportion in the student body by its proportion in the labor force. The fractions obtained are called "selection ratios". If an occupation forms the same proportion of students as of the labor force the ratio is 1; if it is "overrepresented" among students the ratio is more than 1; and if "underrepresented" less than 1. Tables 12 and 13 present the selection ratios for the two age comparisons.

In 1944-45 the high selection ratios belonged clearly to the "old middle classes" of professional and small business men, followed by the lower white-collar occupations and the skilled workers. The semi- and unskilled manual workers and the agricultural occupations had low selection ratios. In 1952-53 the situation was about the same, except for the decline of the semi-professionals. By 1960 there was a slight trend toward increase in the selection ratio of the white-collar classes: they were expanding their rate of University attendance a little faster than the occupational category itself was growing. There was a similar slight increase among farmers for the opposite reason: the decline in their attendance was a bit slower than their decline in the labor force. The selection ratio of small business went down in 1960, but this cannot yet be called a trend.

On the whole the selection ratios are more remarkable for stability than change since the War. The higher professions have maintained their favored position, but if professionals and semi-professionals are combined, the over-representation of the group declined somewhat. The lower white-collar occupations improved their relative position slightly; but the skilled workers lost ground. Semi- and unskilled workers did not change their position.

Selection ratios can be perfectly "equalized" only if they all become equal to 1. However, traditional attendance patterns at selective levels of education always show the small upper strata with a selection ratio of more than 1 and the numerous lower strata with a ratio of less than 1. As expansion of education occurs, the upper strata tend to maintain their favored position; they expand their attendance rate as fast or faster than the overall rate is growing, and the lower strata usually do not much improve their relative position. It is likely that such a situation will often persist — as it has in Puerto Rico — until the demand of the higher strata for educational places has reached some kind of saturation point, after which further expansion may close the gap in attendance rates between the strata. As in the case of high school attendance in the U.S., the gap perhaps cannot be closed short of near-universal attendance. At the least, bringing attendance rates of the lower social classes up to those of the higher generally implies a huge expansion of educational facilities. To take an example from Britain in the 1960s

> If, based on their tests at the age of 8 years, (working class children) had had, at each level of measured intelligence the same chances of being awarded a grammar school place as the children of the upper sections of the middle classes, we should have needed fifty-six percent more grammar school places than were actually available.[1]

Comparison with other nations provides another perspective in which to view the occupational selection ratios of Puerto Rican higher education. Table 14 presents the Puerto Rican figures for 1944-45 together with selection ratios for European countries, grouped by the proportion of their labor force engaged in primary production, and for the U.S.[1] The proportion in primary production in Puerto Rico in the 1040's would place it together with Group I of the European countries, while the U.S. would belong to Group III. Puerto Rico is a little favored by the time period used in these comparisons since the data for all other countries are for the period World War I to World War II, while the Puerto Rico data refer to the end of World War II.

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[1] P xix of Introduction by David Glass to J. W. B. Douglas, "The Home and the School", MacGibbon and Kee, London, 1964.

In the selection ratio of non-agricultural, non-labor occupations, Puerto Rico was closest to the group I countries which resembled it in proportion in primary production. But its selection ratio for agriculture and labor combined fell closest to that of the United States. On closer inspection, the selection ratio for all agricultural occupations combined was virtually identical with that of group I; so also were those of professionals and entrepreneurs. It was in the labor category that Puerto Rico deviated sharply from group I. It had a higher selection ratio in this category than the European group III countries had had between the wars, or indeed than the United States had had.[2] By 1960-61, Puerto Rico had moved into group II so far as primary production was concerned. Profesionals (combined with

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[1] See footnote to Table 14.

[2] Although the selection ratio of the U.S. for labor alone is not given by Anderson, this statement can be inferred from Puerto Rico's low selection ratio for agriculture as compared with that of the U.S. plus the fact that agriculture is a larger proportion of the labor force there than in the U.S. Puerto Rico's selection ratio for agriculture and labor combined could hardly be so close to that of the U.S. unless that for labor were higher.

TABLE 14

SOCIAL SELECTION OF UNIVERSITY STUDENTS AMONG DEVELOPED COUNTRIES[a]

	Per Cent Distribution of Students by Parental Occupation					Ratio of Student Parental % to % of Males in Labor Force					
	According to Percentage of Working Males in Primary Production[b]										
	Between Two Wars				1944-45	Between Two Wars				1944-45	1960-61
	I	II	III	U.S.	Puerto Rico	I	II	III	U.S.	Puerto Rico	Puerto Rico
Agriculture and Labor	18.2	16.2	17.8	37.3	35.8	.28	.19	.25	.57	.44	.47
Non-agriculture - Non-labor	78.9	83.8	82.2	62.7	64.2	4.6	2.7	2.9	1.8	3.64	2.11
Agriculture - All	9.3	11.5	20.1	9.8	13.2	.26	.30	.34	.62	.23	0.24
Agriculture - operators	12.9	10.4	8.3	----	12.6	.37	.27	.58	----	.59	.91
Labor - All	3.5	6.2	9.5	----	28.2	.26	.10	.07	----	.87	.67
Labor - Manager	7.0	6.9	2.2	27.5	22.6	.32	.14	.12	.56	.79	.69
Professional	-----	----	----	----	------	11.9	10.9	13.6	3.4	11.18	5.8
Entrepreneurs	-----	----	----	----	------	4.3	2.4	2.0	3.0	4.66	2.5

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a. This table is taken from C. Arnold Anderson, "Equity, Efficiency and Educational Opportunity in Relation to Economic Development" mimeographed, 1963, p. 33. The Puerto Rico data are added from the present study.

b. I, average 62; II, 40; III, 23. For the U.S., whites only are included in the table.

semi-professionals) were now less overrepresented in its higher education than in the European group III countries between the wars, and entrepreneurs no more so. While the selection ratio for labor had fallen, it was still much higher than that of the European group III countries before World War II. In comparative perspective, then, Puerto Rico's recruitment to higher education is much closer to the egalitarian U.S. pattern than to the pattern of Europe's pre-war selective education.

D. Summary and Conclusion

The Puerto Rican school system has in many ways consciously imitated and unintentionally resembled that of the United States. Primary education is near-universal, even if this wide spread depends heavily on the fact that many pupils are accorded a less-than-full-time elementary schooling.

Secondary education is rapidly expanding, and as it does so, is catering to a growing proportion of terminal, rather than college-preparatory students. If Puerto Rico continues to follow in U.S. footsteps, the next "transformation" of the high schools will change them into mass college-preparatory institutions.[1] However, that day is not very near for Puerto Rico.

College recruitment is not expanding so fast as high school graduation, but it is growing. With the growth has come some "democratization". There are higher college-going rates than formerly among the lower white collar classes; but this trend has not yet extended itself to the manual working classes.

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[1] Cf. Trow, "The Second Transformation...", cited above.

In comparative perspective, both the numbers and the social recruitment patterns of Puerto Rico show it to be drawing relatively closer to the unselective mass education system of the U.S., as contrasted with the selective, and exclusive secondary and higher education systems which have in the past been typical of Europe.

As a major consequence of the expansion of secondary education, class monopoly has been succeeded by class segregation. Sharp class segregation exists between the private and public high schools. The students in the private high schools have become homogeneously high in social status and in measured ability — a result of withdrawal by upper- and upper-middle class parents of their children from public high schools which have been increasingly "invaded" by the offspring of lower social strata.

There is also class segregation between public high schools in the metropolitan areas as versus smaller communities; and these differences - now minimized by the relatively tiny proportion of each cohort who reach senior high school in the rural and small town communities — may be expected to increase in the future as more students of low social origins residing in small towns and rural areas continue their schooling to the secondary level.

The class segregation of secondary education has already had one discernible result for higher education: there is a correlation now between social origins and academic performance at the University which did not formerly exist there. As higher education in Puerto Rico continues to accommodate itself to a very heterogeneously prepared group of entrants, segregation by social class and academic ability may eventually develop at the college level as well. There are class and ability differences now, among the colleges on the Río Piedras campus of the University of Puerto Rico. However, although these differences have changed their pattern since 1944, the evidence does not show that they have yet deepened.

HIGH SCHOOL TO UNIVERSITY IN PUERTO RICO

Part II

RECRUITMENT TO HIGHER EDUCATION IN 1960

Par I of this report described university recruitment in Puerto Rico since the second World War in the context of changes in primary and especially secondary education. Part II deals in detail with patterns of selection for college and university in 1960. It is based on a sample survey of Puerto Rican high school seniors, and it compares their college-going patterns with those of high school seniors in the continental United States at about the same period. Such a comparison puts the Puerto Rican situation into a suitable perspective, since Puerto Rican high schools are modelled on those of the U.S. as the University of Puerto Rico is modelled on the American state universities.

A nationwide study of recruitment to higher education in the U.S. was made by the Educational Testing Service in 1955[1] and another by the Bureau of the Census in 1960.[2] The Census study was conducted in the same year as the Puerto Rico inquiry, but the ETS study used a question

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[1] Educational Testing Service, Background Factors Relating to College Plans and to College Enrollment among Public High School Students, Princeton, New Jersey, April, 1957.

[2] Charles B. Nam and James D. Cowhig, Factors Related to College Attendance of Farm and Non-farm High School Graduates: 1960, Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

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more closely resembling that used in Puerto Rico and administered the question in more similar circumstances. Since timing, question-wording, and the conditions under which the question was asked all affect the comparability of the results, these will be examined before the figures are presented.

The ETS administered a paper-and-pencil questionnaire in January and February of 1955 to over 35,000 twelfth-grade students in a nationwide random sample of 516 public high schools.

The question concerning their college plans read:

"What do you think you will do when you finish high school?"
(Suppose you do not go into military service.)

_______ go to college
_______ work for a year or two and then go to college
_______ get a part-time job and go to college
_______ get a full-time job and go to college
_______ go to a trade school, or take special training
_______ get a job
_______ become an apprentice
_______ other (specify on answer sheet)"

Information on the actual college attendance of a subsample of these students was obtained from a questionnaire sent to the high school principals the following fall. For each student in the subsample the principal was asked to check whether he was:

_______ in college full time
_______ in college part time
_______ in college, but don't know if full time or part time
_______ still in high school
_______ in military service
_______ has a full time job
_______ other
_______ can't determine

Since the Census study was made in connection with the October, 1959, Current Population Survey, its sample was a national sample of household units, rather than of high school senior classes. In a sample of about 35,000 households, 1,279 persons were reported as high school seniors.[1] The Census question was asked of an adult member of the student's household in a personal interview. The question concerning the high school senior was:

"Does X plan to attend college next fall?"

____ Yes

____ No

____ Undecided

The information on actual college attendance of seniors in the sample was obtained from a questionnaire mailed to their high school principals in the fall of 1960.

The Puerto Rico inquiry used a stratified, random sample of high school senior classes. All the high schools of Puerto Rico were classified 1) according to whether they were public or private; 2) according to their rural, urban or metropolitan location[2]; and 3) according to their size: whether under 500 students, 500-999, or 1000 and more. This gave 18 strata from each of which one high school was selected at random, except the stratum of small, metropolitan, private high schools from which three schools were randomly selected in order to give enough seniors for reliable analysis. The entire senior class of each high school selected was included in the study. In the tabulations shown throughout Part II of this report, N's are weighted to represent each stratum proportionally to its representation in the population.[1] It should be kept in mind that private schools are included in the Puerto Rico but not in the U.S. data, except where otherwise specified.

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[1] Nam and Cowhig, *op. cit.*, p. 9. In their tabulations, the authors present estimated N's for the population. Sources and probable size of error in these estimates are described on pp. 12-13.

[2] "Rural" here means located in a community of less than 2500 population. This is the Census definition of "rural", but it does not correspond to the Puerto Rico Dept. of Education's official definition of a rural high school. "Metropolitan" means a high school located in a Standard Metropolitan Area according to the Census classification, and "urban" is everything in between.

Information on the plans of the Puerto Rican high school seniors was obtained from a paper-and-pencil questionnaire administered along with a short ability test during a school period by a member of the research staff. Both questionnaire and test were collected as soon as they had been completed. Losses due to absence from school on the day of the study were minimized by follow-ups. The questionnaire was administered in May of the senior year, very close to the date of the University of Puerto Rico's entrance examination for the following autumn. The question on college plans, translated from the Spanish, was:

"Do you expect to go on to university studies?"

____ Yes, if I am admitted

____ No

Information on actual college attendance the following autumn was obtained from an inquiry mailed to the principals of the high schools in the sample. The principals were asked whether the students were in college, in some other kind of post-secondary school, working, doing something else, or whether the information was unavailable.

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[1] Differences are discussed only if statistically significant at the .05 level or better unless otherwise specified and significance tests were based on the unweighted N of respondents.

The timing of the question on plans was different for all three studies. The ETS asked its question at the beginning of the second semester of the senior year; the Census asked its question still earlier in the senior year when many college plans had not yet crystalized; and the Puerto Rico study asked its question latest — in May — at a point when students had to decide whether or not to take the University of Puerto Rico entrance examination which is frequently used as an evaluation device by other universities in Puerto Rico as well.

The ETS and Puerto Rico studies both used questionnaires filled out by the students themselves. The Census asked the question, usually of a parent of the student, in a personal interview.

The wording of the three questions was different. The ETS included as "college planners" not only those planning to go to college part-time, but also those planning to attend college later than the following autumn. However, those planning to attend later than the following autumn were tabulated as "non-planners" and they appear as "non-planners" in the ETS data reproduced below. The Census question, on the contrary, specified plans for the following autumn, but left room for the "undecided" who are tabulated below as "not planning" to go to college. The Puerto Rico question specified nothing as to when the student planned to enter college. It focussed more nearly on expectations than on plans, by reminding the student that he would have to be admitted to the University to carry out his plan. The implicit emphasis on realistic obstacles in the Puerto Rico questionnaire was increased by subsequent questions as to what the student would do in case he should not be admitted to the University.

The fact that the Census asked its question in the fall of the senior year meant that there were many "undecided" responses and these were classified for most purposes as "not planning to go to college", so that in that study the "non-planner" category is inflated by the factor of timing within the academic year. The Puerto Rico "planners" may have been inflated somewhat in comparison with the other studies by the failure to specify "next fall" as the time when the student planned to enter college. On the other hand the emphasis on expectations rather than hopes in this questionnaire probably worked to deflate the number of college planners.

A special follow-up by the Census Bureau also showed that the high school principals tended to underestimate the number of students actually in college the following fall. Since all three studies depended on principals' reports for this information, this factor was probably working in the same direction for all of them, although not necessarily to the same degree.

With these cautionary remarks in mind, we can turn to the data. Table II-1 shows the college plans and college attendance of U.S. and Puerto Rican high school seniors are revealed by the three inquiries.

The plans of the Puerto Rican high school seniors were a little more ambitious than those of the U.S. seniors in 1960, but a smaller proportion of them were actually carried out the following autumn. It is especially noticeable that in Puerto Rico very few youngsters

TABLE II-1

COLLEGE PLANS AND ATTENDANCE AMONG HIGH SCHOOL SENIORS IN THE UNITED STATES AND PUERTO RICO

	Enrolled the following autumn	Did not enroll	Total number	% planning and not planning to go to college
ETS DATA, 1955 (US)				
Planned to go to college:	63% +	37%	(2740)=100%	49%
Did not plan to go:	8% +	92%	(2629)=100%	51% 100%
Total enrolled and not enrolled:	(1945)	(3424)	(5369)	
% enrolled and not enrolled[a]	35% +	65%	=100%	
CENSUS DATA, 1960 (US)				
Planned to go to college:	68% +	32%	(950,000)=100%	53%
Did not plan to go:	12% +	88%	(853,000)=100%	47% 100%
Total enrolled and not enrolled:	(752,000)	(1,051,000)	(1,803,000)	
% enrolled and not enrolled:	42% +	58%	=100%	
PUERTO RICO DATA, 1960[b]				
Planned to go to college:	50% +	50%	(9145)=100%	58%
Did not plan to go:	2% +	98%	(6527)=100%	42% 100%
Total enrolled and not enrolled:	(4,713)	(10,959)	(15,672)	
% enrolled and not enrolled:	30% +	70%	=100%	

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a. The numbers given for Puerto Rico are weighted as explained above. The proportion of high school seniors in the 1960 sample reported by their principals as enrolled was much lower than the proportion of graduates of this year reported as enrolled in official statistics. (See Table I-6, p. 18 above) There is a difference between seniors and graduates. Principals, as mentioned, probably under-reported enrollments. However, there is also a probability that the official figures of 54.2% is inflated. It is much higher than the contemporaneous figure for the U.S.

b. There were only 5364 seniors in the subsample followed reply ETS to check college enrollment.

attended college in the autumn following the senior year who had not planned to do so. This was partly due to the fact that one cannot enter the University of Puerto Rico without having taken the entrance examination the previous spring; students who did not have college plans by then could not easily change their minds for the following academic year. The not insubstantial minority of U.S. students who did not plan to go to college early in their senior year but nevertheless were enrolled the following fall had probably not crystalized their plans at the time of the study; when they did make up their minds later, their way was not blocked by the need to have taken a nationwide qualifying test.

The gap between plans and attendance in Puerto Rico suggests either that the demand for college education is pressing more heavily against the supply than in the United States, or that reported plans were inflated in Puerto Rico by the fact that the question on plans did not specify "next autumn" as the time of enrollment. More than a third of the Puerto Rico planners were thinking in terms of a two-year degree. The University of Puerto Rico offers two degrees requiring only a two-year course. One is a commercial diploma and the other a normal diploma for elementary school teaching. Unfortunately, neither of the U.S. studies distinguished between four-year and two-year college planners. By the 1960 many U.S. students were entering junior colleges and some proportion of them must have intended to go no further. Table II-2 shows that the failure of Puerto Rico planners to get to college was greater among those who were aiming for the two-year diploma. Both among those who did and who did not plan to go to college, 15 per cent were actually enrolled in some non-college form of post-secondary training in the autumn following their high school graduation.

STUDENT CHARACTERISTICS AND COLLEGE-GOING

Many studies in Europe and the United States have established that the probability of going to college is related to the social characteristics of the student's family and the scholastic aptitude of the student. By far the most important factors everywhere are the social class status of the family and the student's academic ability. However, whether the student is male or female, the type of community in which he resides, the type of high school curriculum he pursues, and other factors as well are associated with college-going. The picture for Puerto Rico is similar in its main outlines to that for the United States, but there are also important differences.

Ability

In Puerto Rico as elsewhere, social origins and measured ability are correlated. That children from families of high social status perform better on the average in ability and achievement tests than children from families of low status - and some of the reasons for this - are too well-known to need laboring. No matter what indicator of family status is used, whether income, fathers's occupation or parents' education, the correlation with performance on the ability test administered by this study was clear. The data presented in Table II-3 show the relationship between ability and the "socio-educational status" of the student's family. The index of socio-educational status (hereinafter referred to as SES) was formed by combining information about the father's occupation and the number of years of schooling he completed.[1]

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[1] A description of how the index was formed is found in Appendix C.

TABLE II-2

TWO-YEAR AND FOUR-YEAR COLLEGE PLANS AND SCHOOL ENROLLMENT THE FOLLOWING AUTUMN AMONG PUERTO RICAN HIGH SCHOOL SENIORS

	AUTUMN 1960			
	Enrolled in a college	Enrolled in a school but not a college	Not in school	Total number (100%)
Spring 1960:				
Four-Year College Plans:	58%	15%	27%	(6437)
Two-Year College Plans:	30%	15%	55%	(2708)
No College Plans	2%	15%	83%	(6527)

The short general ability test used in the study was prepared and standardized for Puerto Rico by the Educational Testing Service and the Puerto Rico Department of Education.[1] For convenience in analysis, students have been divided into ability quintiles.[2]

Table II-3 shows a familiar pattern. The proportion of high-ability students declines regularly as SES declines and conversely the proportion of low-ability students rises. At the same time there are large minorities of low-ability, high SES students, and of high-ability, low SES students.

Table II-4 shows that both plans to go to college and college attendance were positively related in Puerto Rico to measured ability. Furthermore, the selection processes which intervened between planning to go to college and actual enrollment heavily favored the more able planners. In the top ability quintile two-thirds as many enrolled as planned to do so whereas in the bottom two quintiles the proportion was between a fourth and a fifth.

Although the erosion which occurs between making plans to go to college and carrying them out is a gradual process, there are some key steps at which an elimination occurs. For instance, not all planners took the University's entrance examination. The numbers in each ability quintile actually taking the examination as a per cent of those who planned to go to college, shown in Table II-5, indicated that the elimination at this point increased with declining ability - though a majority of planners at all ability levels took the examination.

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[1] Educational Testing Service, Interamerican Cooperative Tests, Tests of General Ability, Advanced Form, AS, 1950: prepared under the direction of Herschel T. Manuel, University of Texas. The norms for Puerto Rico were prepared by the Puerto Rico Department of Education.

[2] More accurately, they are divided as nearly into quintiles as the distribution of ability scores permitted. Students with identical scores were placed in the same quintile, so that these are somewhat unequal in size.

Since admission to the University of Puerto Rico depends more or less exclusively on the entrance examination averaged together with the high school graduation index - both of these being measurements which are correlated with ability[1] - it is not surprising that among those who took the examination admissions also favored the more able. And finally, some supplementary data gathered for 1960 entrants to the University of Puerto Rico showed that the group who eliminated themselves at the last phase by not enrolling although they had been admitted, was also weighted with the less able among the admitted.

Here there is a contrast between what happens in Puerto Rico and in the U.S. In the States de lion's share of ability screening for college among high school seniors is *self*-selection. The screening of applicants by the colleges themselves changes the ability distribution of college-planners very little.[2] In Puerto Rico, on the other hand, the ability distribution of college entrants as compared with the total population of high school seniors is improved to an equal extent by the self-selection of college-planners and by the mainly external

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[1] The high school graduation index had a lower correlation with ability than the U.P.R. entrance examination.

[2] Cf. Natalie Rogoff Ramsy, Social Structure and College Recruitment, mimeographed, Columbia University, Bureau of Applied Social Research, 1962, pp. 386. Dr. Ramsy's manuscript is a further analysis of the data collected in the ETS study.

TABLE II-3

SOCIO-EDUCATIONAL STATUS AND ABILITY AMONG PUERTO RICAN HIGH SCHOOL SENIORS

	Ability Quintile						
SES	(high) 5	4	3	2	(low) 1	Weighted number[a] (100%)	& in each SES category
I (high)	47%	17	15	13	8	(1735)	11%
II	36%	23	15	12	14	(1937)	12
III	29%	19	19	14	19	(2565(	17
IV	23%	20	21	18	18	(3902)	26
V	16%	18	21	19	26	(3555)	23
VI (low)	10%	19	18	26	27	(1606)	11
No answer						(372)	
Total weighted number	(3055)	(2736)	(2936)	(3322)	(3723)	(15,672)	100%

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[a] The unweighted N is roughly the weighted N divided by 10.

TABLE II-4

ABILITY, COLLEGE-GOING PLANS, AND COLLEGE ATTENDANCE AMONG PUERTO RICAN HIGH SCHOOL SENIORS

Ability Quintile:	Per cent who planned to go:	Per cent who attended:
5 (high)	90%	62%
4	71%	35%
3	55%	22%
2	37%	7%
1 (low)	27%	6%

TABLE II-5

THOSE WHO TOOK THE ENTRANCE EXAMINATION AS A PER CENT OF THOSE WHO PLANNED TO GO TO COLLEGE, ACCORDING TO ABILITY

Ability Quintile:	
5 (high)	90%
4	85%
3	87%
2	70%
1 (low)	56%

selection for admission to the University from among applicants (Table II-6). Who takes the University entrance examination may be partly a matter of self-selection, although it may also be influenced by the teachers and other staff of the high schools. However, the strongest weeding out of the less able planners is accomplished by the admissions index, which grants entry to the University to those whose school grades and entrance examination score, averaged together, are highest.[1]

One might suppose that the limits on total number of college places available, compared to the number who planned to go to college was a major reason for the sharp ability selection among Puerto Rican college planners. It is true, of course, that if college attendance approaches 100% of planners, there can be no further winnowing out of applicants. In the United States enrollees were only about 29% fewer than planners, whereas in Puerto Rico they were almost 50% fewer. However, both of these eliminations leave margin for a variety of selection patterns to operate. College admissions procedures in the United States could improve the ability composition of entrants as compared with planners more than they do. And the admissions procedure in Puerto Rico need not have conformed so strongly to a pattern of eliminating the less able. For instance, if personal interviews were used as part of the admissions procedure, as they are in the United States, the consequence, though unintended, would probably be to eliminate a greater proportion

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[1] As shown in Part I, even the admissions index does not strictly select the best academic performers, since high school grades are not comparable from school to school in Puerto Rico.

TABLE II-6

DISTRIBUTION ACCORDING TO ABILITY OF ALL HIGH SCHOOL SENIORS, COLLEGE PLANNERS AND THOSE ENROLLED IN COLLEGE

US ETS, 1955[a]

Ability Quintile	All Seniors	College Planners	Enrolled in College
5 (high)	22.5%	34.1%	39.6%
4	21.5	22.8	24.0
3	19.5	17.8	18.1
2	19.5	14.3	10.9
1 (low)	14.7	9.0	5.8
unknown	2.3	2.0	1.6
Total	100%	100%	100%
Total number	(6,248)	(2,740)	(2,025)

Puerto Rico, 1960

Ability Quintile	All Seniors	College Planners	Enrolled in College
5 (high)	25%	39%	54%
4	19	24	24
3	19	18	14
2	17	11	4
1 (low)	20	8	4
Total	100%	100%	100%
Total weighted number	(15,672)	(9,145)	(4,713)

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[a] Data from Ramsy, *op. cit.*, p.

of low than high SES applicants. Low SES youngsters are not so well endowed with the social skills which make a good impression in an interview.[1]

Socio-Educational Status

The socio-educational status of high school seniors in Puerto Rico was related both to their college plans and their college enrollment. However, if plans are divided into the two-year and four-year types, only the four-year plans proved to be correlated with SES. Plans to enter the two-year normal or secretarial curriculum were unrelated to SES among boys and showed a slight tendency to increase as SES declined among girls (Table II-7).

A somewhat analogous finding is reported for the United States by Ramsy. She points out that the ETS questionnaire allowed the high school senior to state that he had anyone of four types of college plans. Two of these: "going to college immediately and not working" and "going to college combined with part-time work" were correlated with social status; but the other two: "postponing college for a few years" or "working full-time and going to college at night" showed no correlation with any indicators of status or ability.[1]

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[1] "Although the data are not presented in Ramsy's manuscript, it is my guess that a comparison of US college entrants with college planners would show that the admissions process in the US raises the social composition of the admitted over the applicants. That is, it has the unintended effect mentioned above. The social class bias introduced by using subjective judgments of qualitative criteria has been demonstrated in relation to selection for grammar school places in England: "The type of child going to grammar school is to some extent determined by the methods used in secondary selection. In Middleborough and South-West Hertfordshire, for example, virtually all boys with the necessary minimum measured intelligence from each occupational group were awarded grammar school places when selection was made by a combination of tests, examinations, teachers' reports and interviews. But when tests were abandoned in South-West Hertfordshire the proportion of working class boys gaining grammar school places fell and that of the middle class boys rose. This probably reflected the social biases of subjective judgments at interview and of the teachers' assessments." J.W.B. Douglas, The Home and the School, London, Macgibbon and Kee, 1964, p. 15.

In Puerto Rico, enrollment in a four-year curriculum in the autumn following high school graduation was correlated with SES for both boys and girls. But, like plans, enrollment in the two-year courses and also in non-college post-secondary training showed no correlation with SES. Since the two-year University diplomas are licences for the secretarial and elementary teaching occupations almost monopolized by women, they were more attractive to the girls than to the boys (Table 11-8).

Shorter, cheaper alternatives to four years of college following high school seem to have some attraction for all social strata in both Puerto Rico and the U.S. The upper strata choose them infrequently as compared with four years of higher education. In the lower strata, they are chosen with equal or greater frequency. What is most notable is that the norm of continuing education after high school is spreading among all 12th graders. On the Continent this is the "second transformation of high school education" described by Martin Trow. In Puerto Rico the norm is also spreading to the lowest strata in the form of two-year post high school courses. However, it is likely to be overshadowed in the immediate future by the growing numbers of low SES youngsters who will become high school graduates but will go no further in school.

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[1] Ibid., pp. 315-316.

TABLE II-7

SOCIO-EDUCATIONAL STATUS AND COLLEGE-GOING PLANS OF PUERTO RICAN HIGH SCHOOL SENIORS, ACCORDING TO SEX

SES:	Four-Year Plans	Two-Year Plans	No College Plans	Total weighted[a] N (100%)
BOYS				
1 (high)	64%	5	31	(672)
2	75%	10	16	(758)
3	58%	8	35	(1084)
4	39%	12	49	(1508)
5	42%	10	48	(1514)
6 (low)	29%	7	65	(730)
				(6266)
GIRLS				
1(high)	61%	19	20	(1063)
2	61%	13	26	(1179)
3	39%	24	38	(1481)
4	31%	28	41	(2394)
5	23%	23	54	(2041)
6 (low)	13%	29	59	(876)
				(9034)

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[a] Cases where either SES or plans were not known are omitted from the table.

TABLE II-8

SOCIO-EDUCATIONAL STATUS AND COLLEGE ATTENDANCE AMONG PUERTO RICAN HIGH SCHOOL SENIORS, BY SEX

Per Cent of each SES category:

SES:	In 4-year curriculum	In 2-year curriculum	In other post-secondary school	Not in school	Total weighted N (100%)
BOYS					
1 (high)	48%	-	10	42	(672)
2	60%	-	7	33	(758)
3	32%	-	13	55	(1084)
4	20%	2	15	63	(1508)
5	27%	2	12	58	(1514)
6 (low)	19%	-	5	76	(730)
GIRLS					
1 (high)	51%	4	19	26	(1063)
2	38%	2	17	43	(1179)
3	30%	6	19	45	(1481)
4	22%	6	16	57	(2394)
5	12%	3	18	67	(2041)
6 (low)	14%	5	8	73	(876)

Since the college admissions procedure in Puerto Rico selects the more able high school seniors for entry into higher education, one might expect the screening process to have given a sharp advantage to high SES students as well. Table II-9 shows the extent to which this was true. College planners were of somewhat higher SES than all seniors; and enrollees somewhat higher than planners. However, both self-selection and external selection gave more weight to ability than to social status in Puerto Rico.

Data for the US in a form comparable to Table II-9 are not available. If only the selection of planners from among seniors is considered, the relative weight of SES and ability can be roughly measured in another way.

Using father's occupation as the indicator of social status and dichotomizing occupations between manual and non-manual, it is possible to compare the U.S. and Puerto Rico with respect to the zero order and partial correlation coefficients of ability and father's occupation with college plans. The r between father's occupation and plans was .20 for the U.S. and .24 for Puerto Rico. The r between father's occupation and student's ability was .16 for the U.S. and .19 for Puerto Rico. However, the r between ability and plans was .34 for the U.S. and .47 for Puerto Rico. The partial correlation coefficient doe snot change this picture: The r between ability and plans with father's occupation held constant was .31 for the U.S. and .44 for Puerto Rico.

Ability weighed more relative to SES in the plans of Puerto Rican than U.S. high school seniors. In Puerto Rico ability also outweighed

TABLE II-9

DISTRIBUTION ACCORDING TO SES OF ALL HIGH SCHOOL SENIORS, COLLEGE PLANNERS, AND ENROLLEES IN PUERTO RICO, 1960

SES	All seniors	Planners	Enrollees
1 (high)	11%	14%	19%
II	12	17	20
III	17	18	19
IV	26	24	22
V	23	20	15
VI (low)	11	7	5
Total	100%	100%	100%

SES as a determinant of college enrollment. If "equal opportunity" is defined as equal participation by those of equivalent ability, Puerto Rico has equalized college-going opportunity for high school seniors a little more than the U.S. However, this is a comparison only of what occurs at the end of the 12th grade. It is in large part a function of average length of schooling on the Island and the Continent. Low social status takes its toll in school dropouts early in the school careers of Puerto Rican youngsters — mainly in the primary and junior high school. In the U.S. it takes a major part of its toll during the high school years and at the transition from high school to college.

The Influence of Parents and Friends

An important factor in the educational plans of students is their parents' aspirations for them. Parents with high educational aspirations for their children provide them with encouragement and support in their school work. Frequently they are also able to provide an intellectually stimulating family life which helps the academic performance of the child.[1] The family's "objective" class position is a fair predictor of parental attitudes towards education. However, there is considerable intra-class variation in these attitudes which is associated with variations in students' plans.[2]

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[1] Cf. in these connections, J.W.B. Douglas, op. cit., and Edward Mc Dill and James Coleman.

[2] Cf. Joseph Kahl, "Educational and Occupational Aspirations of 'Common Man Boys'", Harvard Educational Review, op. cit., Vol. 23, No. 3., Summer 1953, for a discussion of differing attitudes within a working class group and their effects on boys' college plans. Elizabeth Cohen, in an unpublished dissertation at Harvard University has tried to account for the intra-class variation by using refined occupational categories and by analyzing the occupational origins of both parents. Refinement of (pto.)

Puerto Rican parents' attitudes towards university attendance for their children were explored by asking the seniors whether their mothers and fathers "would feel very happy if you went to the university"; "would like you to go but regret that conditions do not permit it"; "don't care whether or not you go"; or "feel it is unnecessary for you to go".

It would have been more desirable to have the parents' own account of their attitudes; the data to be presented here must be read keeping in mind the likelihood that students brought their reports of their parents' attitudes somewhat into line with their own.

Table II-10 shows that favorable attitudes toward college-going on the part of the seniors' fathers were positively associated with high occupational position, but that intra-class variation was considerable. Reports of mothers' attitudes were almost identically patterned. Among the white collar occupations, only the small proprietors included any significant proportion of fathers who "didn't care" or thought higher education "unnecessary". This is reassuring with respect to the objectivity of the students' reports, since it accords with what is generally known about this occupational group. Children of small proprietors often inherit the family business, which guarantees their middle class status regardless of education, and higher education is less valued for this reason in this than in other middle class groups.

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occupational categories indicates that the "higher" working-class occupations have higher educational aspirations for their children than the lower. There is also some indication that mothers who have married beneath the class status of their family of origin seek to recover the lost status through their children and encourage educational ambition to that end. The educational attitudes of parents are more closely associated with their own educational level than with either income or occupation.

TABLE II-10

FATHERS' OCCUPATIONS AND SENIORS' REPORTS OF FATHERS' ATTITUDES TOWARD GOING TO COLLEGE

Father's occupation	He would feel very happy if I went	He regrets that conditions do not permit it	He doesn't care	He thinks it unnecessary	Total weighted number (100%)
Professionals, proprietors, managers	97%	1	2	-	(736)
White collar	80%	20	-	-	(2499)
Small Business	72%	20	3	5	(1957)
Skilled labor	63%	32	3	2	(3173)
Semi- and unskilled labor	48%	41	10	1	(3246)
Farmers	56%	35	5	4	(1568)
Farm labor	30%	60	3	7	(1047)
					(14.226)[a]

[a] 1446 (weighted number) students reported their fathers as deceased, retired, unemployed or on relief or did not answer the question. These cases are not included in the table.

Where parents had favorable attitudes toward college-going[1], students were more likely to plan on college than where their attitudes were unfavorable. Within occupational categories as well, favorable parenial attitudes were associated with higher college plans (Table II-11). The table also suggests that parenial attitudes make least difference to plans at the top and bottom of the occupational hierarchy.[2] (The small business group is an exception to the trend.) This is plausible, since the high status child is pushed toward college by many influences in his environment other than his parents. And conversely, a favorable parental attitude may be of relatively little help to the low status child who has objectively slim possibilities of implementing it.

Another primary group which influences the college plans of high school students is their friends.[3] The Puerto Rican seniors were asked whether "all or most", "some" or "few or none" of their friends were planning to go to college. These responses must be regarded with the same caution as the students' reports of their parents' attitudes; they probably contain an element of projection.

Reports of friends' plans proved to be positively associated with the seniors' own occupational class positions but not with their ability scores, except in the top quintile (Tables II-12 and II-13). If own

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[1] The responses were dichotomized between "very happy" and all other responses, which were regarded respectively as "favorable" and "unfavorable".

[2] The number of cases involved is small.

[3] Robert E. Herriott, "Some Determinants of Educational Aspiration", Harvard Educational Review, 33 (Spring 1963) pp. 157-177. See also ETS, op. cit., p. 39, and McDill and Coleman, op. cit.

TABLE II-11

FATHERS' OCCUPATIONS AND REPORTED ATTITUDES AND SENIORS' COLLEGE-GOING PLANS

Father's occupation:	Father's attitude: Favorable	Father's attitude: Unfavorable
	Per cent of seniors in each category of occupation and attitude who planned to go to college:	
Professioanals, proprietors, and managers	91 N = (714)	100 N = (22)
White collar	82 N = (1999)	54 N = (500)
Small business	70 N = (1409)	68 N = (548)
Skilled labor	69 N = (1899)	45 N = (1284)
Semi- and unskilled labor	58 N = (1558)	40 N = (1688)
Farmers	69 N = (878)	33 N = (690)
Farm labor	38 N = (314)	33 N = (733)

TABLE II-12

FATHERS'S OCCUPATION AND FRIENDS' COLLEGE-GOING PLANS

Father's occupation	All or most of my friends plan to go	Some plan to go	Few or none plan to go	Total
Professionals, proprietors, and managers	91%	6	3	100%
White collar	69%	28	3	100%
Small business	60%	35	5	100%
Skilled worker	56%	37	7	100%
Semi- and unskilled labor	48%	43	9	100%
Farmers	49%	43	8	100%
Farm labor	46%	47	7	100%

TABLE II-13

ABILITY AND FRIENDS' REPORTED COLLEGE-GOING PLANS

Ability quintile:	top 5	4	3	2	bottom 1
Friends' plans:					
All or most going	82%	69%	68%	63%	69%
Some going	16	27	30	34	28
Few or none going	2	4	2	3	3
Total:	100%	100%	100%	100%	100%

occupational class and own ability are considered simultaneously in relation to friends' plans, the numbers in each category become too low for statistically reliable comparison, but the picture is unchanged. Students of different class position give different reports of their friends' plans with ability held constant; students of different ability give the same reports of friends' plans with class held constant, except for the top quintile. This suggests that students choose their friends more on a basis of similar social background than on a basis of similar ability. It also increases confidence in the objectivity of the students' reports, since if these reports were simply projections of their own plans they would be as closely associated with the seniors' ability as with their social class position.

Within occupational categories, the students' plans were more strongly associated with their friends' plans than with their fathers' attitude (Table II-14). And Table II-15 shows that when the father's attitude was favorable, but friends' plans were not or conversely, the students who had "all or most" of their friends planning to go to college but an unfavorably disposed father (group 2 in Table II-15) had higher plans themselves than those with a favorable father but only "some" friends planning on college (group 3 in Table II-15).

Robert Herriot, in a study of the college plans of some 1400 students in a Massachusetts high school also found college plans more highly correlated with the students' conception of their friends' expectations than with any other single factor he studied, including students' reports of parental expectations. However, these data, like ours, are correlational only and do not reveal whether students were

TABLE II-14

FATHERS' OCCUPATIONS, FRIENDS' PLANS, AND STUDENTS' OWN PLANS FOR GOING TO COLLEGE

	Friends' plans [a]	
	All or most friends going	Some going
Father's occupation:	Per cent of students in each category planning to go themselves:	
Professionals, proprietors, and managers	95% N = (690)	23% N = (44)
White collar	82 N = (2049)	48 N = (699)
Small business	79 N = (1174)	53 N = (685)
Skilled workers	75 N = (1997)	40 N = (1214)
Semi- and unskilled workers	67 N = (1558)	34 N = (1396)
Farmers	78 N = (768)	34 N = (674)
Farm laborers	51 N = (481)	22 N = (481)

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[a] The very small "few or none going" category is omitted from the table.

TABLE II-15

FATHERS' ATTITUDES, FRIENDS' PLANS, AND STUDENTS' OWN PLANS[a]

	Father's attitude	Friends' plans	Proportion with college plans	Total weighted number (100%)
Group 1	+	+[b]	83%	(5740)
Group 2	÷	+	61%	(2389)
Group 3	+	÷	48%	(2930)
Group 4	÷	÷	26%	(3161)

[a] Cases with no information on any of the three variables are omitted from the table.

[b] + means a favorable and ÷ an unfavorable attitude. "All or most friends going" is defined as favorable and "some" as unfavorable. The small "few or none" category is omitted from the table.

influenced by their friends or made friends who had plans like their own.

McDill and Coleman[1] reported some longitudinal data which showed the influence of the high school clique on college plans growing progressively stronger as the students moved from the freshman to the senior year, until, in the fourth year, the clique was a more important influence on plans than social class status; it was also relatively more important than in the freshman year as compared with parental attitudes, but this study showed parental attitudes still slightly outweighing the influence of the clique in the senior year.

Whether parents' or friends' attitudes are a stronger influence on the educational plans of adolescents, it is clear that friends have influence. In effect friends expose each other indirectly to the influence of other families, and potentially other social class environments than their own. As pointed out in another context, the importance of the social composition of the school lies partly in the pattern of friendships which it makes available or forecloses. Friendships between youngsters of different social background do not necessarily occur in a socially heterogeneous school, but they cannot occur in a homogeneous one.

Religion

Puerto Rico is a Catholic country with a Protestant minority. The two religious groups are not ethnically different, however. If there are cultural contrasts strong enough to produce a differential emphasis on education, the fact is not evident from this sample of high school seniors.[2]

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[1] Op. cit.

[2] It was mentioned in Part I that Catholics are now overrepresented in the

The socio-economic composition of Catholic and Protestant seniors was very similar, and the college-going rates almost identical (Table II-16).

Age

Compulsory school attendance in Puerto Rico begins at age 7. Many children start school earlier and pupils take different lengths of time to reach the twelfth grade. The age of high school seniors in the sample ranged from under 14 to over 26 years. Twenty-four per cent of the seniors were 17 years old, 39% were 18, and 20% were 19; that is, 83% fell into the 17-19 year age range. There were no differences between twelfth grade boys and girls in age distribution, nor were there differences among seniors living in rural, urban, and metropolitan areas.

Seniors 20 years of age and over were twice as likely as the younger students to be in a commercial or vocational curriculum. Many of these older people probably returned to high school after a lapse of years in order to improve their vocational chances. There was a clear tendency for college-going plans to decline as the age of the high school seniors went up, but this applied only to four-year plans. Two-year plans were unrelated to age, except among students over 20 years old who were the

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College of Humanities at the University of Puerto Rico. But this has not always been the case. The "humanistic" emphasis of the private Catholic high schools has recently been complemented by a strengthening of the courses in natural science. In short, there is little evidence of cultural differences which noticeably affect attitudes to education. Similar observations concerning the United States have been made by Lipset and Bendix. Although Catholics are underrepresented in higher education; this is mainly attributable to the relatively low socio-economic composition of the group. Such differences as can be found in attitudes to education seem to vary strongly between different Catholic sub-groups and to be ethnic rather than religious. Cf. Lipset and Bendix, Social Mobility in Industrial Society, pp. .

TABLE II-16

RELIGION AND COLLEGE-GOING AMONG PUERTO RICAN HIGH SCHOOL SENIORS

	Percent who planned to go	Percent enrolled	Total weighted number
Catholic	57	33	(13,614)
Protestant	60	31	(2,004)
High social status denominations	63	35	(1,122)
Low social status denominations	57	26	(862)

most likely to plan to continue their education through a two-year college diploma (Table II-17).

The likelihood of carrying out college plans also declined as age increased, and this held true for both four-year and two-year plans. In fact the probability of being in any kind of post-secondary school in the autumn following the senior year declined with increase in age (Table II-18). One might suppose that the older college planners failed to be admitted to college because they were at an academic disadvantage. That was part of the story. The older seniors scored lower both on the ability test and in high school grade index than did the younger students.[1] Not being admitted was not the whole story, however. A comparison of a random sample of freshman at the University of Puerto Rico in 1960 with a random sample of students who had been admitted the same year but had failed to enroll, showed that the latter group was on the average older. In this older group, pressing family and financial responsibilities probably interfered with the desire for more education.

The age at which students first thought of going to college was also related to SES. In the top two strata half or more thought of it before they left primary school; within the lower strata the majority did not consider it until they reached junior or senior high school. One would expect youngsters from families of high status to begin planning for college earlier than other younsters and that was overall true - with one exception. Table II-19 shows that the high school seniors in

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[1] Rodríguez Bou also found that entrants under 20 years old at UPR in 1959 did better on the entrance examination than those over 20. "Evaluation.. ...." cited above, p. 20.

TABLE II-17

AGE AND COLLEGE-GOING PLANS AMONG PUERTO RICAN HIGH SCHOOL SENIORS

Age	Four-year-plans	Two-year-plans	Total (weighted) number = 100% [a]
Less than 14 years through 16	73%	16%	(690)
17	58%	17%	(3750)
18	41%	17%	(6114)
19	29%	16%	(3164)
20 and over	17%	28%	(1914)

[a] Those with no college plans are omitted from the table: therefore the figures across the rows add to less than 100%.

TABLE II-18

COLLEGE AND OTHER POST-SECONDARY SCHOOL ATTENDANCE ACCORDING TO FOUR-YEAR OR TWO-YEAR COLLEGE PLANS AND AGE

	4-year plans	2-year plans	4-year plans	2-year plans
Age:	Percent in college:		Percent in either school or college	
Less than 14 to 17 years	86%	71%	96%	100%
17 to 18	63%	43%	83%	58%
18 to 19	58%	26%	75%	43%
19 to 20	44%	20%	53%	42%
20 and over	34%	14%	38%	30%

TABLE II-19

AGE AT WHICH PUERTO RICAN HIGH SCHOOL SENIORS FIRST THOUGHT OF ATTENDING COLLEGE

	% who thought of it at ages:						
SES	6-10	11-13	14-16	17-19	20 and over	No answer	Total weighted N(100%)[a]
I (high)	34%	26	27	13	-	-	(1735)
II	18%	30	36	12	2	2	(1937)
III	13%	20	52	13	2	-	(2565)
IV	15%	21	40	21	-	3	(392)
V	11%	23	44	14	3	5	(3555)
VI (low)	29%	12	31	26	1	1	(1606)

[a] Cases where SES or age at first plans for college are unknown are omitted from the table.

the lowest SES stratum had as high a proportion who began thinking of college between the ages of six and ten years as those of the highest stratum, although it also included more who did not consider college until the end of their high school careers. A finding of this sort is not uncommon. It is analogous for instance to the finding that among freshmen who entered MIT in 1956, the sons of manual workers had thought of becoming engineers at an earlier age than freshmen of higher social origins excepting only the sons of engineers. Becoming a professional man is not normative for manual workers' sons and only those who are early and highly mobility-oriented are likely to get so far as MIT.[1] Another parallel is Ramsy's finding that college-going plans in the United States wer higher among Negro high school seniors than among any other group --- although these youngsters had low average SES and measured ability when compared with the white sample. The dynamics are the same: the status of high school seniors is so rare among Negro youngsters that anyone who has arrived so far is hoping to go further.[2]

The High School Curriculum

Many European school systems determine the possibility of attending a university largely at the point of entry into secondary school. "Eleven-plus" examinations and other screening devices sort the students into different secondary "streams" only one of which is later eligible to complete for entry into the higher institutions. In the American comprehensive high school something similar, though less conclusive, is implied in the student's voluntary selection of the college-preparatory, general, commercial or vocational curriculum. Students go on to college from all these courses of study, but in the largest proportion from the college-preparatory course.

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[1] Leila Sussmann, The Entering Freshman at MIT, mimeographed, Massachusetts Institute of Technology, 1957, p. 35, Table 11.

[2] Ramsy, op. cit., p. 338 ff.

In Puerto Rico, it will be recalled, some vocational high schools were founded in the forties and commercial and vocational curricula were added to the general (academic) curriculum in some others. However, the general curriculum remains the only one available to a majority of students.

According to figures for the ETS sample, the enrollment of seniors in the various high school curricula in the U.S. in 1955 was 34% college-preparatory, 23.5% general, 22% commercial, and 8.7% vocational. The remainder of the students were classified under "other curricula" or did not answer the question.[1] By comparison, 82.2% of the seniors in Puerto Rico sample for 1960 were enrolled in the general curriculum, 12.5% in the commercial curriculum, and 4.9% in one of the vocational curricula: "diversified occupations" or trade and industry".[2] The remainder did not answer the question.

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[1] ETS, op. cit., calculated from Table D-9a.

[2] Diplomas awarded were distributed differently from senior enrollment in 1960; 79.3% went to graduates of general curriculum, 8% to commercial graduates, 11.2% to vocational graduates, and 1.5% to graduates of a "distributive education" curriculum. These data come from a personal communication to the author by the Honorable Cándido Oliveras, Commissioner of Education of Puerto Rico, July 3, 1963. The difference may indicate that our sample underrepresented vocational students and overrepresented the commercial, although it does not necessarily indicate this since we sampled

Despite the recent increase in the non-academic curricula in Puerto Rico, they do not have such large enrollments as in the U.S. It is difficult to interpret the figure for general curriculum enrollments, since the course comprises both college-preparatory and terminal students. The academic requirements of the general curriculum are no higher than those of the vocational curricula (although they are higher than those of the commercial, except for languages). But the students are free to add a considerable number of credits in academic electives while commercial and vocational students do not have this option, they must devote thetime to their specialized occupational training.

Not all general students use their electives for academic purposes. We saw in Part I that metropolitan students entering the University — and these were mainly graduates of the general course — had increased their academic credits less since 1944 than the rural and urban. We shall see below that the general curriculum of the metropolitan public high schools is more terminal in the outcome than in the urban and rural high schools. Probably these terminal general students take non-academic elective even more exclusively than their colleg-going classmates. The fact the non-academic curricula are in short supply, relative to the demand for them in Puerto Rican high schools.[1] The

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seniors, not diploma recipients. Some seniors are not graduated and some diploma recipients were not registered seniors in a high school the semester prior to receiving the diploma.

[1] Raymond van Tassel, Industrial Arts Education and Vocational Education in Puerto Rico, Superior Council of Education, University of Puerto Rico, April 1959, mimeographed, p. 64. The author gives the number enrolled in all vocational and technical curricula as of October 1958 as 6,875 and the number of applicants as 10,311. This does not separate the non-diploma from the diploma programs but the shortage of places clearly applies to

shortage enables these curricula to enforce entrance requirements over and above the junior high school diploma, which is the sole requirements for entrance to the general curriculum.[1] In spite of this, the general curriculum attracted its full "share" of students who were in the top ability quintile and probably on their way to college, but it also attracted its full "share" of students in the lowest quintile. The other two curricula, conversely, attracted less than their share of the top and bottom ability quintiles and had an "overrepresentation" of those who ranked in the middle[2] (Table II-20).

The Puerto Rican seniors in the various curricula were more alike in their college plans than the U.S. seniors were. College enrollment overall fell further below plans in Puerto Rico; but the sharpest difference between plans and enrollment occurred among the Puerto Rican students of the commercial and vocational curricula. Their plans were exceedingly over-optimistic when viewed in the light of their subsequent college attendance (Tables II-21 and II-22). The lack of academic subject

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both. In the US, it is academic training which has recently become scarce in the secondary schools relation to the needs of students who wish to go on to college. Cf. Natalie Ramsy, "College Recruitment and High School Curricula", Sociology of Education, Vol. 38, No. 4, Summer 1965.

[1] Admission to the commercial curriculum requires, in addition to the junior high school diploma, a minimum grade index of C, a percentile rank of at least 50 in a general ability and Spanish reading test, and a satisfactory interview with the vocational counsellor of the school and the teacher-coordinator of the program. Entry to the distributive occupations curriculum also requires a minimum grade index of C, a certificate of good health, the parents' consent in writing, and the permission of the school authorities.

[2] If the US college-preparatory and general curricula are combined this ability distribution among curricula is similar to that in the US. Cf. Edith S. Greer and Richard M. Karbech, What High School Pupils Study, U.S. Department of Health, Education,and Welfare, Washington, 1962, pp 36-49.

TABLE II-20

ABILITY AND TYPE OF CURRICULUM PURSUED AMONG PUERTO RICAN HIGH SCHOOL SENIORS

Percent enrolled who were in the:	General curriculum	Commercial and vocational curricula	All students
Top ability quintile	26	17	24
Second - - -	19	21	19
Third - - -	18	24	19
Fourth - - -	16	24	18
Bottom - - -	21	14	20
Total weighted [a] (100%) =	(12,887)	(2,747)	(15.634)

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[a] A few cases for whom the curriculum was not obtained are omitted from the table.

TABLE II-21

HIGH SCHOOL CURRICULUM AND TYPES OF COLLEGE PLANS AMONG PUERTO RICAN AND US HIGH SCHOOL SENIORS [a]

PUERTO RICO

	High school curriculum		
College plans:	General	Commercial	Vocational
4 - year	37%	22%	22%
2 - year	17	36	20
All college planners	54%	58%	42%
No plans	46	42	58
	100%	100%	100%

US

	College preparatory	General	Commercial, vocational
College plans	74%	26%	22%
No college plans	26	74	78
	100%	100%	100%

[a] US data from Ramsy, op. cit., p. 155.

TABLE II-22

CURRICULUM AND COLLEGE ATTENDANCE AMONG PUERTO RICAN AND US HIGH SCHOOL SENIORS[a]

PUERTO RICO		US	
enrolled in college:			
General curriculum	34%	College--preparatory curriculum	62%
Commercial and vocational curricula	8%	General curriculum	21%
		Commercial curriculum	10%
		Vocational curriculum	17%

[a] US data from ETS *op. cit.* Table D-9a.

requirements for entry to the UPR may have misled into overestimating their chances of admission.

Ability was related to college plans among students of all curricula. However, among the commercial and vocational graduates, ability was only slightly related to college attendance. Table II-23 shows that the top ability quintile among commercial and vocational students had a college attendance rate not quite equal to that of students of middling ability from the general curriculum; the remainder all had a very low rate of attendance.

The low college attendance of commercial and vocational graduates was partly due to a situation of shortage at the University paralleling the shortage of non-academic curricula in the high schools. Many of these students, especially the commercial graduates, wanted to register for the two-year-secretarial diploma at UPR. The number of places in this curriculum was smaller relative to the demand than places in the bachelor's degree programs. In addition, the commercial students who took the UPR entrance examination ranked lower than the general curriculum students; vocational students ranked in majority in the bottom quintile of entrance examination scores (Table II-24). The relatively poor performance of the commercial students seems to have been only partly accounted for by their lowered measured ability as compared with the college-bound general students. Even with ability held constant the non-academic students did relatively poorly in the examination.[1]

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[1] This comparison is based on N's too small to yield statistically significant comparisons. But the result was consistent: General students in ability quintile 5 did better than commercial students in that quintile (there were no vocational students who scored that high on the ability test). The same held true for ability quintiles 4 and 3: General students did best, commercial students scored considerably lower, and vocational students much lower still.

TABLE II-23

ABILITY AND COLLEGE ATTENDANCE AMONG PUERTO RICAN HIGH SCHOOL SENIORS IN THE GENERAL AND OTHER CURRICULA

Ability quintile:	General curriculum	All other curricula:
	Percent in each quintile who attended college	
Top	72%	22%
Second	42%	9%
Third	27%	6%
Fourth	9%	2%
Bottom	7%	4%
All quintiles	35%	8%

TABLE II-24

RANK ON ENTRANCE EXAMINATION OF PUBLIC HIGH SCHOOL SENIORS IN DIFFERENT CURRICULA

	Entrance examination quintile					Total who took examination
	(low)				(high)	
Seniors in:	1	2	3	4	5	(100%)
	Percent					
General curriculum	18	23	20	21	18	(5,182)
Commercial curriculum	20	18	30	28	4	(766)
Vocational curriculum	69	24	4	3	--	(312)

Probably this was due to less academic preparation. Thus a combination of shortage, and low academic preparation led even most of the college planners among the commercial and vocational graduates of 1960 to make their high school diplomas terminal. The great majority of all graduates in these curricula ended their education with high school. By contrast, half the general curriculum graduates went on to further schooling of some kind (Table II-25).

Community Contexts

In just about all industrial nations, the geographical distribution of secondary education favors the densely populated cities with more facilities than can be afforded for the more sparsely populated towns and country side. Rural areas sometimes have no secondary schools at all — or if they do, these are vocational — agricultural and terminal in nature. The rural student who wants to continue to an academic secondary school must frequently go far from home, and so relatively few rural youngsters, as compared with the city-bred, attend these schools.

Even in the United States where secondary education has been brought to every local community, there are considerable differences in college-going rates favoring the urban areas. In 1960, 47.7% of US urban high school graduates but only 34.1% of rural non-farm and 32.2% of rural-farm graduates enrolled in college.[1] Despite the universal accessibility of high school education, it remains true that the small rural high schools are less able than the larger urban ones to provide a varied curriculum; that 70% of farm family youngsters enroll in vocational curricula[2]; that

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[1] Nam Y Cowhig, op. cit., p. 16, Table 14.

[2] Nam & Cowhig, op. cit., p. 17, Table 15.

TABLE II-25

POST-SECONDARY EDUCATION AMONG PUERTO RICAN HIGH SCHOOL SENIORS OF DIFFERENT CURRICULA

Curriculum	Proportion in college 4 - year curricula		Proportion in college 2 - year curricula		Proportion in other schools		Total attending post-secondary schools
General	31.1%	+	3.1%	+	16.2%	=	50.4%
Commercial	4.5%	+	4.3%	+	10.1%	=	18.9%
Vocational	3.5%	+	----	+	6.0%	=	9.5%

rural youngsters' occupational aspirations are lower than those of urban youngsters; that rural communities are relatively poor, rural families relatively large, and colleges relatively inaccessible geographically to rural as compared with urban residents.[1]

The same causes which are at work nearly everywhere also put rural children in Puerto Rico at an educational disadvantage. In a Commonwealth still more than 50% rural in 1960, only 20% of the high school seniors came from rural communities and only 11.1% of all twelfth-graders were attending rurally-located high schools. When we talk of the high school seniors from rural communities in Puerto Rico in 1960, therefore, we are referring only to some 3,200 youngsters who had remained in school after the overwhelming majority of the age-cohort in these communities had dropped out. Once the tenth grade was reached, however, this small group of school survivors showed as much staying-power as their town and city counterparts; the senior high school dropout rates did not differ between rural, urban, and metropolitan communities in 1944, 1952, or 1960.[2]

The college-going rates of senior according to the size of the communities in which they resided are shown in Table II-26. This table includes students who attended private high schools, most of which are academic and nearly all of which are in a metropolitan area. The table shows highest college plans in the metropolitan areas, but no difference

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[1] Glen H. Elder, Jr. "Achievement Orientations and Career Patterns of Rural "Youth", Sociology of Education, Fall 1963, Vol, 37, No. 1, pp.30-59.

[2] Rural communities are defined here as those with a population under 2,500; "metropolitan" means a standard metropolitan area. Both of these are Census definitions. I have used the term "urban" to refer to all towns and cities falling between these extremes.

TABLE II-26

SIZE OF COMMUNITY OF RESIDENCE AND COLLEGE-GOING AMONG PUERTO RICAN HIGH SCHOOL SENIORS

	Percent who planned to go to college in the spring	Percent enrolled in the fall	Total weighted number (100%)
Size of community where students resides:			
	2-year + 4-year plans plans	2-year + 4-year plans plans	
Rural (less than 2,500)	57= (22 + 35)	30= (6 + 24)	(3,165)
2,500 - 10,000	54= (13 + 41)	31= (1 + 30)	(2,398)
10,000 - 50,000	52= (19 + 34)	28= (4 + 24)	(3,752)
Standard metropolitan area	64= (16 + 48)	31= (2 + 29)	(6,316)
			(15,631)[a]

[a] A few cases where community of residence was not obtained are omitted from the table.

in college attendance related to community of residence.

If only the public high school students are included, as in Tables II-27 and II-28, the picture changes. Table II-27 classifies seniors by the location of their schools rather than by their own communities of residence; and Table II-28 classifies them both ways. The high college-going rate of the rurally located schools was due to two factors. First, senior high school attendance is relatively unusual in rural Puerto Rico; the exceptional students who remain through graduation are quite likely to be planning to go to college.[1] Second, those rural Puerto Rican students who want a terminal secondary education often also want a vocational curriculum; therefore they attend urban high schools and register heavily in the commercial and vocational courses rather than attending the rural high schools which offer only the general curriculum. Table II-28 shows that rural students who attended urban high schools had a lower college-going rate than rural students who attended rural high schools. The fact i that the rural high school in Puerto Rico represents a historical lag. It is still an elite college preparatory institution — as all the public high schools once were.

The low college attendance from the metropolitan areas compared with the urban high schools also calls for an explanation. Plans were higher, but enrollment lower. In part this was due to the larger non-academic curricula in the metropolitan schools with their big erosion between plans and enrollment. However, the metropolitan general

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[1] This is once more like the US Negro high school seniors and its parallels mentioned above.

TABLE II-28

LOCATION OF PUBLIC HIGH SCHOOLS AND COLLEGE-GOING RATES OF SENIORS IN PUERTO RICO, 1960

	Percent who planned to go to college			Percent enrolled		
	4-years		2-years	4-years		2-years
	%		%	%		%
Rural public high schools	50	+	21 = 71%	40	+	6 = 46%
Urban public high schools	31	+	19 = 50%	23	+	4 = 27%
Metropolitan public high schools	36	+	20 = 56%	15	+	2 = 17%

curriculum students had a similar erosion: their plans were as high as those of the urban general curriculum students, although not higher: but their enrollment was lower.[1] The general curriculum students of the metropolitan high schools in our 1960 sample did a little less well on the university entrance examination than either their rural or urban counterparts, diminishing their chances for admission to the University.[2] Able students in large high schools received lower marks than their ability peers in small high schools and that reduced their chances even more.[3] We shall see below that there is also reason to suppose that some of the students admitted to the University from the big-city high schools did not enroll.

However, the main reason for low college attendance from the general curriculum of the metropolitan public high schools probably lay in the concentration in metropolitan areas of academic private schools. The private schools represented about half of all metropolitan seniors who were pursuing an academic curriculum. As we have seen, they recruited students of high ability. This had the interesting result of cancelling out the correlation between SES and ability within the private schools: all their students, no matter from what stratum they came, were equally able. This draining off of the talented also had the effect of cancelling out the correlation between SES and ability within the general curriculum of the metropolitan public schools. All the students who were "left behind", one might say, regardless of social stratum, were equally mediocre in measured ability. Both as a cause and a consequence of their failure to attend private schools, the students left behind were probably mediocre as well in their motivation to go to college. In any case, they did not follow up their declared plans with the perseverance that other students showed.

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[1] Both urban and metropolitan general curriculum students had lower plans and enrollment than the rural.

[2] It was shown above that students from large high schools did better on the entrance examination than those from small. This would lead one to expect better performance also from metropolitan area students since the large high schools are concentrated in those areas. However, this was counteracted by the fact that the metropolitan general students in each high school size category performed less well on the 1960 entrance examination than the urban.

[3] See Table I-30.

Sex Roles, Ability, and Social Origins in Community Contexts

The slightly higher college plans of Puerto Rican as against US high school seniors were attributable to the girls rather than the boys. (Table II-30). However, 23% of the Puerto Rican girls, and only 9% of the boys, had two-year plans. We do not know how many of the US seniors were contemplating only two years of college. Even if only the Puerto Rican four-year planners are considered, the difference in favor of boys was 13% as compared with 12% in the US in 1955, and 7% in 1960. In view of prevailing stereotypes concerning the status of women in the US and Puerto Rico, this seems a small contrast.[1]

Girls were less likely than boys to carry out their plans in both the US and Puerto Rico, but their disadvantage was greater on the Island due to the two-year planners. Puerto Rican girls and boys with four-year plans attended college with equal frequency.

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[1] Ramsy has shown that the relative participation of US women in higher education as compared to that of men rose from the mid-nineteenth century until the early 1940s and surprisingly has declined steadily since 1944. The reason for the decline is not clear. Ramsy hypothesizes that a growing proportion of recruits to US higher education is coming from manual workers' families, which heavily favor their sons over their daughters for college attendance. The US middle classes formerly had the same pattern but now can afford to offer more equal opportunities to sons and daughters. Op. cit., pp. 64 and 360-364.

TABLE II-29

COLLEGE-GOING AMONG RURAL, URBAN AND METROPOLITAN STUDENTS IN DIFFERENTLY LOCATED PUBLIC HIGH SCHOOLS[a]

	% in 4-year college programs		% in 2-year college programs		Total % in college
Rural students in rural high schools	34	+	7	=	41
Rural students in urban high schools	15	+	5	=	20
Urban students in rural high schools	40	+	-	=	40
Urban students in urban high schools	25	+	3	=	28
Metropolitan students in metropolitan high schools	15	+	2	=	17

a. The difference in college-going rates from rural high schools in Tables II-30 and II-31 arises from the fact that some cases in which both community of residence and location of high school were not known are omitted from Table II-31.

The tendency for girls to finish high school in greater numbers than boys, and to go on to college in smaller numbers, is especially strong in the US among urban manual workers. This is evidenced by the fact that they have a greater concentration of girls among high school seniors and boys among college entrants than any other group.[1]

Something similar is true in Puerto Rico. It is the lower social strata in the metropolitan area which have the highest concentration of girls among high school seniors, and the bottom stratum in both urban and metropolitan areas which has the highest concentration of boys among college entrants.

On both the Island and the Continent, the college recruitment of boys followed a modern, mertocratic pattern compared to that of girls -- which was more "elitist". That is to say, ability weighed more in the recruitment of the boys than the girls; and social class weighed more in the recruitment of the girls than the boys.

Ramsy presents the data for the United States, and the Puerto Rican data roughly parallel them. In the US college-going rises more sharply for the boys as ability level goes up, so that the largest difference in college-going between the sexes is found among the most able.[2]

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[1] Ibid., p. 349. The high school commercial course offers a path of upward mobility to working-class girls whereas the vocational curriculum does not so much to their brothers. On the other hand (as mentioned in footnote I) if a working class family can send a child to college, it will favor a boy over a girl for reasons of occupational mobility.

[2] Op. cit., p. 29. It should be noted that Ramsy deals with college plans whereas the Puerto Rican data here refer to actual attendance. Plans and attendance are more alike in the US than in Puerto Rico, as we have shown.

In Puerto Rico -- if only the public high schools and four-year planners are considered -- the largest difference between the sexes is also found among the most able (Table II-31).

In the US college-going declines more sharply for girls than for boys as social status goes down, so that the largest difference between the sexes is in the lower strata.[1] This is true in Puerto Rico as well (Table II-32).

Communities of different size and type in the United States influence the self-selection of their young residents for college in two mutually reinforcing ways. One way is through their influence on occupational aspirations. The occupational structures of communities differ and the occupations which are socially visible to young people help form their ideas as to their own careers. As an example: clerical, sales and similar white-collar occupations are most heavily represented in large cities. Ramsy found that the occupational aspirations of daughters of the manual classes were influenced by this fact. Working-class girls in big cities were less likely to aspire to the traditional women's professions of teaching and nursing, and more likely to aspire to white-collar jobs of a clerical and sales nature, than girls of similar social origins in small communities. In consequence, working-class girls in the urban areas had a lower college-going rate (30%) than their rural and small town counterparts (36%):

> "A working-class girl in a village or small town high school apparently finds a more limited number of jobs open to her not requiring higher education than does

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[1] Ibid., p. 30

TABLE II-30

COLLEGE PLANS AMONG PUERTO RICAN AND US HIGH SCHOOL SENIORS, ACCORDING TO SEX

	Puerto Rico		United States (census)	
	Spring, 1960	Total (weighted) number	Fall, 1960	Total (estimated) number
Boys	57%	(6,467)	56.3%	(1,037,000)
Girls	59%	(9,297)	49.2%	(1,020,000)

TABLE II-31

SEX, ABILITY, AND COLLEGE ATTENDANCE AMONG PUERTO RICAN PUBLIC HIGH SCHOOL SENIORS

Ability Quintile:	Per cent enrolled in a four-year curriculum:	
	Boys	Girls
(High) 5	54	37
4	26	35
3	20	23
2	10	5
(Low) 1	8	4

TABLE II-32

SES AND COLLEGE ATTENDANCE AMONG PUERTO RICAN PUBLIC HIGH SCHOOL SENIORS

SES	Per cent enrolled in a four-year curriculum	
	Boys	Girls
(High) I	42	40
II	49	34
III	26	22
IV	21	18
V	22	11
(Low) VI	19	5

> a girl of the same family background living in or near a large city. Teaching and nursing .... which recruit heavily from small town and working-class origins, may well predominate so heavily among the jobs open to women in small town as to lead a great many working-class girls to continue their education in the hopes of achieving one of these careers. But in the city, clerical and business jobs are at least as visible.... and provide .... career opportunities without further education."[1]

This tendency of US urban working-class daughters to make their school education terminal was no less true of the more than of the less able. It was facilitated by the availability of the commercial high school curriculum in metropolitan areas. The proportion enrolled in this curriculum increased steadily with increasing size of high school; and the largest high schools were found in big cities.[2] Thus the combination of limited aspirations in the working classes -- which applies with more force to the girls than to the boys -- plus the high visibility in the city of white-collar jobs for women, plus the ready availability of the curriculum which leads to those jobs together produce a "fork in the road" which leads even the ablest daughters of manual workers' families away from college:

> "We may say that urban American high schools have unwittingly reproduced a condition generally associated with European educational systems: a fork in the road within the school system, each branch leading to separate adult social roles, and a fork that occurs at a relatively early age. For the fourteen or fifteen-year-old and her family, deciding what type of course she will follow in high school, the commercial curriculum represents an avenue leading to a relatively attractive, available job. Once she begins to study typing, shorthand,

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[1] Op. cit., p. 344.

[2] The proportion enrolled in the college preparatory curriculum also

> commercial English and business arithmetic, she moves ever further away from access to higher education."[1]

Puerto Rican girls' occupational expectations, like those of US girls, were associated with the kinds of communities in which they lived --- and associated not dissimilarly. The metropolitan girls expected to go into white-collar occupations about twice as often as the urban or rural, and they expected to enter either the professions or manual work less often (Table II-33).

The availability of high school curricula in Puerto Rico varies with the size of high school and community somewhat as it does in the US. The rural areas with only small and medium-sized high schools offer the general curriculum almost exclusively. The large urban high schools have the largest enrollment in the "trade and industry" and "diversified occupations" curricula and the large metropolitan high schools have the largest enrollments in the commercial curriculum (Table II-34).

It was the metropolitan girls who chose a non-academic curriculum most heavily and their choice was almost always the commercial course (Table II-35). This choice - conversely to the US pattern - was not associated with SES but it was correlated with ability. From a quarter to a third of the public metropolitan high school girls in all SES

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increases with size of high school in the US; the proportion enrolled in the general curriculum decreases with high school size and the proportion enrolled in vocational curricula does not vary with high school size. *Ibid.*, p. 155.

[1] *Ibid.*, pp. 347-348.

TABLE II-33

OCCUPATIONAL EXPECTATIONS OF PUBLIC HIGH SCHOOL SENIOR GIRLS, ACCORDING TO LOCATION OF HIGH SCHOOL

	Professions	Business	White collar	Manual	Farming	Total weighted N (100%)
Rural	52%	3	29	16	-	(419)
Urban	50%	2	27	26	-	(2305)
Metropolitan	42%	2	49	7	-	(2095)

TABLE II-34

CURRICULUM DISTRIBUTION ACCORDING TO HIGH SCHOOL SIZE AND LOCATION IN PUERTO RICO

	SIZE:	General Curriculum	Commercial Curriculum	Vocational Curriculum
		PER CENT ENROLLED		
Rural High Schools	300-499	100	-	-
	500-999	94	3	3
Urban High Schools	300-499	100	-	-
	500-999	98	-	2
	1000 +	65	12	23
Metropolitan High Schools	100-299	97	-	3
	500-999	89	6	4
	1000 +	69	28	3

TABLE II-35

CURRICULUM CHOICE AMONG PUERTO RICAN PUBLIC HIGH SCHOOL SENIORS BY SEX AND LOCATION OF HIGH SCHOOL

	Boys	Girls
Urban High Schools		
General Curriculum	86%	88%
Commercial and Vocational Curricula	14%	12%
	100%	100%
Metropolitan High Schools		
General Curriculum	82%	67%
Commercial and Vocational Curricula	18%	33%
	100%	100%

categories took the commercial course; but 69% in the top ability quintile were taking it in 1960, as compared with 7% in the bottom quintile and 30-39% of those in between.[1]

How did these occupational and curriculum choices of girls link with college-going? Among the top two ability quintile in the metropolitan area, 40% were in the commercial curriculum. This compared with none in the rural high schools and a minuscule proportion in the urban. Girls who were graduated from the commercial curriculum -- if they went to college at all -- went mainly into the two year secretarial course at the University. Thus, on the Continent it is the ablest daughters of the urban working-class who are drawn into the commercial curriculum by its availability and by the attraction of white collar jobs. On the Island, many metropolitan girls of all social strata are drawn into the commercial curriculum and away from the path to the bachelor of arts degree.

The combination of forces in the metropolitan community which led able working class girls away from college did not function in the same way for the boys. On the contrary, able boys in the metropolitan communities had high occupational aspirations and high college plans. The proportion of the top ability quartile who aspired to professional, managerial, and white collar careers was the same, regardless of social origins, in the large cities and their suburbs, but declined with social origins in the smaller communites.[2] Accordingly, able working-class boys in urban areas had higher college-going rates than their rural counterparts.

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[1] The remainder of this discussion of girls refers only to those in the public high schools unless otherwise specified.

[2] Ramsy, op. cit., p. 381

The position of the metropolitan boys in Puerto Rico resembled that of their US male counterparts in some respects, but in others it was more like that of the Puerto Rican metropolitan girls. Occupational expectations[1] of boys were highest in the metropolitan areas, as in the US. However, they did not decline with community size. Rural boys ranked second overall, and as high as the metropolitan boys in professional expectations; they were lower in their expectations of business and white collar careers. Urban boys were the lowest in professional expectations, although as high as the metropolitan in business and white collar career hopes. (Table II-35a).

The high school curriculum did not play the role for boys in Puerto Rico that it did for girls. Able boys were not attracted to the vocational curriculum as able girls were to the commercial. Boys in the top two ability quintiles were nearly all enrolled in the general curriculum. However, within this group college attendance was highest from the rural high schools, lower from the urban, and lowest from the metropolitan (Table II-36).

The relatively low attendance of the ablest urban boys is probably explained by their occupational expectations. They were not planning to go into the professions, but into small town business careers which are not so often thought to require college training.

The still lower attendance of the ablest metropolitan boys in

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[1] Puerto Rican seniors were asked about their occupational expectations rather than their aspirations.

TABLE II-35 a

OCCUPATIONAL EXPECTATIONS OF SENIOR BOYS ATTENDING RURAL, URBAN, AND METROPOLITAN HIGH SCHOOLS, ACCORDING TO SES

		Professions	Business	White collar	Manual	Farming	N(100%)
Rural	Top 3 strata	59%	2	8	29	2	(177)
	Bottom 3 strata	51%	10	6	38	5	(553)
Urban	Top 3 strata	35%	14	14	32	5	(870)
	Bottom 3 strata	23%	20	13	42	2	(1758)
Metropolitan	Top 3 strata	63%	14	9	14	-	(1075)
	Bottom 3 strata	57%	10	9	24	-	(794)

TABLE II-36

COLLEGE ATTENDANCE AMONG THE TOP TWO ABILITY QUINTILES OF BOYS IN THE GENERAL CURRICULUM, ACCORDING TO LOCATION OF PUBLIC HIGH SCHOOLS

	Per cent enrolled	Total weighted N (100%)
Rural	63	(330)
Urban	36	(1072)
Metropolitan	21	(688)

the general curriculum bears out the speculation that big city general students were not strongly college-oriented. We have suggested that this had something to do with their failure to attend private school, but we do not know whether a lack of interest in college prevented them from trying to gain admission to private high schools, or whether failure to gain admission in some wise dimmed their ambition to go to college. None the less, these boys had quite high occupational expectations which they apparently planned to fulfill in other ways. Seventeen per cent of them, as compared with only 1 per cent of their urban and 1 per cent of their rural counterparts, enrolled in a school other than a college after high school graduation. Thus the alternative paths to desirable careers which abound in the metropolis diverted some of the most able boys as well as girls from the University -- but they diverted them at the exit rather than the entrance to high school

PART I

APPENDIX A

TABLE A-1

PROPORTION OF ENTERING FRESHMEN WHO COMPLETED MORE THAN 3 YEARS IN SPANISH BY PUBLIC OR PRIVATE HIGH SCHOOL, BY YEAR

	Year and Percentage of Students Who Completed more than 3 Years in Spanish		
Type of high school	1944	1952	1960
Public	48% (N=542)	44% (N=907)	68% (N=1148)
Private Catholic	59% (N= 51)	66% (N=143)	77% (N= 390)
Other Private	30% (N= 34)	88% (N= 95)	75% (N= 138)

TABLE A-2

PROPORTION OF ENTERING FRESHMEN WHO COMPLETED 2 YEARS OR MORE IN MATHEMATICS, BY PUBLIC OR PRIVATE HIGH SCHOOL, BY YEAR

	Year and Percentage of Students who Completed more than 2 years of Mathematics		
Type of high school	1944	1952	1960
Public	58% (N=542)	94% (N=907)	86% (N=1148)
Private Catholic	57% (N= 51)	81% (N=143)	94% (N= 390)
Other Private	26% (N= 54)	79% (N= 95)	91% (N= 138)

TABLE A-3

PROPORTION OF ENTERING FRESHMEN WHO COMPLETED MORE THAN 3 YEARS IN NATURAL SCIENCE BY PUBLIC OR PRIVATE HIGH SCHOCL BY YEAR

	Year and Percentage of Students who Completed more than 3 Years in Science		
Type of high school	1944	1952	1960
Public	19% (N=542)	18% (N=907)	34% (N=1148)
Private Catholic	18% (N= 51)	37% (N=143)	44% (N- 390)
Other Private	31% (N= 54)	35% (N= 95)	30% (N= 136)

TABLE A-4

PROPORTION OF ENTERING FRESHMEN WHO COMPLETED 3 YEARS OR MORE IN SOCIAL STUDIES BY PUBLIC OR PRIVATE HIGH SCHOOL BY YEAR

	Year and Percentage of Students who Completed 3 Years or more in Social Studies		
Type of high school	1944	1952	1960
Public	18% (N=542)	33% (N=907)	38% (N=1148)
Private Catholic	4% (N= 51)	31% (N=143)	42% (N= 138)
Other Private	11% (N= 54)	13% (N= 95)	56% (N= 138)

TABLE A-5

PROPORTION OF ENTERING FRESHMEN WHO COMPLETED 4 YEARS
OR MORE IN ENGLISH BY PUBLIC OR PRIVATE HIGH SCHOOL,
BY YEAR

Type of high school	Year and Percentage who Completed 4 Years or more in English 1944	 1952	 1960
Public	100% (N=542)	100% (N=907)	88% (N=1148)
Private Catholic	100% (N= 51)	100% (N=143)	96% (N= 390)
Other Private	100% (N= 54)	99% (N= 95)	92% (N= 138)

TABLE A-6

TOTAL NUMBER OF HIGH SCHOOL UNITS COMPLETED BY ENTERING FRESHMEN, BY LOCATION OF PUBLIC HIGH SCHOOL, BY YEAR

	Year and Location								
	1944			1952			1960		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
Total number of units completed:									
16 units	40%	45%	63%	45%	44%	46%	31%	29%	34%
More than 16 units	60%	55%	37%	55%	56%	54%	69%	71%	66%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
	(N=254)	(N=269)	(N=16)	(N=361)	(N=490)	(N=55)	(N=429)	(N=603)	(N=116)

TABLE A-7

NUMBER OF UNITS IN SPANISH COMPLETED BY ENTERING FRESHMEN BY LOCATION OF PUBLIC HIGH SCHOOLS, PER YEAR

	Location of Public High School and Year								
	1944-45			1952-53			1960-61		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
				p e r		c e n t			
Total number of units in Spanish:									
3 or fewer	56.7	49.4	31.2	56.2	56.5	48.2	39.4	28.8	19.8
More than 3	43.3	50.6	68.8	43.8	43.5	51.8	60.6	71.2	80.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	(254)	(269)	(16)	(361)	(490)	(56)	(429)	(603)	(116)

TABLE A-8

NUMBER OF UNITS IN MATHEMATICS COMPLETED BY ENTERING
FRESHMEN BY LOCATION OF PUBLIC HIGH SCHOOLS BY YEAR

	Location of high school and year								
	1944-45			1952-53			1960-61		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
				p e r c e n t					
Number of units in Mathematics:									
2 or fewer	39.0	45.3	50.0	8.0	4.7	1.8	18.6	12.3	4.3
2 1/2 - 3 1/2	51.6	51.7	50.0	63.0	76.7	73.2	50.4	57.2	60.4
4 or more	9.4	3.0	----	29.0	18.6	25.0	31.0	30.5	35.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	(254)	(269)	(16)	(361)	(490)	(56)	(429)	(603)	(116)

TABLE A-9

NUMBER OF UNITS IN NATURAL SCIENCES COMPLETED BY ENTERING FRESHMEN BY LOCATION OF PUBLIC HIGH SCHOOLS BY YEAR

	Location of public high schools and year								
	1944-45			1952-53			1960-61		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
	per cent								
Number of units in natural sciences:									
fewer than 2	3.2	1.1	6.2	0.8	0.8	---	6.1	5.0	---
2	28.7	19.7	31.2	38.3	13.5	16.0	21.0	10.1	10.3
3	48.8	59.9	43.8	46.8	65.1	55.4	45.4	46.3	50.9
More than 3	19.3	19.3	18.8	14.1	20.6	28.6	27.5	38.6	38.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	(254)	(269)	(16)	(361)	(490)	(56)	(429)	(603)	(116)

TABLE A-10

NUMBER OF UNITS IN SOCIAL STUDIES COMPLETED BY ENTERING FRESHMEN BY LOCATION OF PUBLIC HIGH SCHOOLS BY YEAR

	Location of public high school and year								
	1944-45			1952-53			1960-61		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
	per cent								
Number of units in social studies:									
fewer than 2	51.2	36.4	37.5	1.4	13.7	3.6	11.0	9.0	0.9
2	28.3	33.5	43.8	58.7	52.0	64.3	50.1	49.1	58.6
More than 2	20.5	31.1	18.8	39.9	34.3	32.1	38.9	41.9	40.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	(254)	(269)	(16)	(361)	(490)	(56)	(429)	(603)	(116)

TABLE A-11

NUMBER OF UNITS IN ENGLISH COMPLETED BY ENTERING FRESHMEN BY LOCATION OF PUBLIC HIGH SCHOOLS BY YEAR

	Location of public high school and year								
	1944-45			1952-53			1960-61		
	Metrop.	Urban	Rural	Metrop.	Urban	Rural	Metrop.	Urban	Rural
				per cent					
Number of units in English :									
Less than 4	0.8	-	-	0.5	0.4	-	16.6	10.8	3.4
4	94.1	86.6	62.5	97.0	96.1	100.0	83.2	89.0	96.6
More than 4	5.1	13.4	37.5	2.5	3.5	-	0.2	0.2	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	(N=254)	(N=269)	(N= 16)	(N-361)	(N=490)	(N= 56)	(N=4289)	(N-603)	(N-116)

TABLE A-17

TOTAL NUMBER OF HIGH SCHOOL UNITS COMPLETED BY ENTERING FRESHMEN BY YEAR, BY SIZE OF PUBLIC HIGH SCHOOLS[a]

	Year and size of high school					
	1944		1952		1960	
Number of units	small	large	small	large	small	large
16 or less	48%	32%	45%	44%	33%	25%
More than 16	52	68	55	56	67	75
Total	100%	100%	100%	100%	100%	100%
	(N=380)	(N=158)	(N=476)	(N=430)	(N=625)	(N=523)

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[a] Small schools are those with an enrollment of fewer than 100 through 999, while large ones have 1000 or more students.

APPENDIX B

THE SAMPLE

The 14 high schools in the sample represent 10% of the 139 senior high schools in Puerto Rico at the time of the study. The unweighted number of seniors, 1634, is a little over 10% of the number of seniors in the population. There were 15,918 seniors in January, 1960, and somewhat fewer in May when the questionnaire was administered.

As described in the text, the population of Puerto Rican senior high schools as of January, 1960, was stratified in the following ways:

1) according to size of the student body;
2) according to the size of the community in which the school was located. "Rural" high schools are located in communities which were rural by census definition at the last available census. "Metropolitan" high schools were located in a Standard Metropolitan Area by census definition. All other schools were labelled "Urban";
3) according to whether they were public or private.

This yielded 18 categories of schools from each of which one high school was selected by random procedure. An exception was made in the case of the small, metropolitan private schools. A substantial number of students were attending such schools, but the individual senior classes were very small; therefore, three schools were randomly selected to avoid attaching a large weight to few cases.

The charts below show the distributions of the population of high schools and the unweighted and weighted sample of high schools and the population of seniors and the unweighted and weighted sample of seniors.

APPENDIX B (cont'd.) (2)

SENIOR HIGH SCHOOL STUDENTS - POPULATION
(15,918) January, 1960

School size	Rural		Urban		Metropolitan		Totals
	Public	Private	Public	Private	Public	Private	
Under 500	(1293)	(99)	(2096)	(334)	(333)	(1583)	5738
500 - 1000	(480)	-	(2550)	-	(177)	(655)	3862
1000 or more	-	-	(2458)	-	(3860)	-	6318
Totals	(1773)	(99)	(7104)	(334)	(4370)	(2238)	

STUDENTS - SAMPLE (1634) UNWEIGHTED
May, 1960

Under 500	(96)	(24)	(105)	(20)	(34)	(91)	370
500 - 1000	(159)	-	(173)	-	(169)	(130)	631
1000 or more	-	-	(292)	-	(341)		633
Totals	(255)	(24)	(570)	(20)	(544)	(221)	1634

APPENDIX B (cont'd.) (3)

SENIOR HIGH SCHOOLS - POPULATION (139)
JANUARY, 1960

School size	Rural		Urban		Metropolitan		Totals
	Rural	Private	Public	Private	Public	Private	
Under 500	(22)	(4)	(22)	(13)	(5)	(31)	97
500 - 1000	(3)	-	(16)	-	(1)	(7)	27
1000 or more	-	-	(7)	-	(8)	-	15
DK	-	-	-	-	-	-	-
Totals	(25)	(4)	(45)	(13)	(14)	(38)	

SCHOOL SAMPLE (14) MAY, 1960

Under 500	(1)	(1)	(1)	(1)	(1)	(3)	8
500 - 1000	(1)	-	(1)	-	(1)	(1)	4
1000 or more	-	-	(1)	-	(1)	-	2
Totals	(2)	(1)	(3)	(1)	(3)	(4)	

APPENDIX B (4)

	Schools: Population	Schools: Sample
Size of student body		
Under 500	97	8
500 - 1000	27	4
1000 plus	15	2
Organization		
Public	84	8
Private	55	6
Location		
Rural	29	3
Urban	58	4
Metropolitan	52	7

	Students: Population	Students: weighted sample
Under 500	5639	5672
500 - 1000	3673	3862
1000 plus	6327	6318
Public	13247	13142
Private	2671	2530
Rural	1872	1843
Urban	7438	7350
Metropolitan	6608	6479

APPENDIX C

The Index of Socio-Educational Status

The socio-educational status index is made up from information concerning the respondent's father's occupation and education. There are six categories. They are listed below along with the occupational and educational combinations included in each.

The bottom group in SES categories II, III and IV ranks higher than the top group in the category immediately below it on the scale of education, but lower in the scale of occupation. Education rather than occupation was used to decide the ranks of these "overlapping" groups because this alternative yielded SES categories more homogeneous on major dependant variables (college plans, measured ability) than the other. Education of parents has nearly always been found to correlate more highly with the educational behavior of children than occupation of parents, and this holds true for the Puerto Rico sample.

SES cat.		Occupation of father	Education of father
I		Professionals, managers, white-collar workers........	with a high school diploma or more.
II	1.	"""""""""""""""""""""""""........	with some high school, but not graduates.
	2.	Small business men and skilled workers.........	with high school graduation or more.
III	1.	Managers and white-collar workers..............	with less than eigth grade education.
	2.	Small business men and skilled workers.........	with some high school, but not graduates.
	3.	Semi- and unskilled workers and farmers........	with high school graduation or more.

APPENDIX C (2)

		Occupation of father	Education of father
IV	1.	Small business men and skilled workers	with less than eigth grade education.
	2.	Semi- and unskilled workers and farmers	with some high school, but not graduates.
	3.	Farm laborers, unemployed	with high school graduation or more.
V.	1.	Semi- and unskilled workers and farmers	with less than eigth grade education.
	2.	Farm laborers and unemployed	with some high school, but not graduates.
VI.		Farm laborers and unemployed	with less than eigth grade education.